YACHTING

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THE SKIPPER WAS A VETERAN SAILING MASTER OF FORTY YEARS' SEAGOING EXPERIENCE

HEARTSEASE WAS NOT UNLIKE MANY OTHER AUXILIARIES

Up the Coast in Heartsease

By BRADFORD BURNHAM

(Photos by the Author)

"NOW, with your permission, Mr. Burnham, we'll reeve new peak halyards."

The skipper was ever ceremonious, I reflected, as I hauled the line through the stout blocks of lignum vitæ which the sturdy little auxiliary possessed. The two lines had been lightly seized end to end with sail twine, and it was but the work of a moment to haul out the old and replace it by the new. There was a time coming, though I didn't know it then, when I would thank my lucky stars for that change, and would fervently bless the skipper for his apparent slight insanity upon the question of new gear.

Sometimes, however, I didn't bless the skipper; quite the reverse. His partner had given him a pierhead leave in Jacksonville after a little difference of opinion, and since I had sold my own little craft I offered to ship north on Heartsease. I accepted the skipper's suave ceremony and extreme politeness, which were heavily tinged with cutting sarcasm, as a necessary evil which the novice must bear in the company of a veteran sailing master forty years his senior. I had shipped to learn things at first hand. And I learned them.

It was on one of those warm Florida afternoons of early April that we chugged forth from our berth at South Jacksonville, and helped by the strong ebb, started at good speed down the mighty St. John's, bound for the far distant port of New Haven, Conn. The heat of advancing spring now made those northern waters less chilly in our reflections than they had been when we had left them the preceding November and had chugged from frost to flowers by the inside route.

Florida's call in the late fall is no more tempting than is the lure of the North in springtime. Yet, according to the motor-boating stories, it would seem that of the big fleet of boats that migrate south in the autumn, none returns with the spring. Or at least we never read of them. Get out your back numbers, fellows, and you'll find plenty of good yarns about the southward cruise, but never a log of a boat bound north over the same course. Everybody knows how differently the scenery along a certain road looks when the motor car goes back in the opposite direction. Even more so is this true over a motor-boat route—and when we try to run over an intricate course by reading backwards detailed sailing directions designed for people cruising in the other direction, we come speedily to perplexing difficulties and sooner or later "get stuck." We are instructed, for instance, to keep in midstream when rounding the fourth bend after entering a certain creek. But when we are approaching from the opposite direction, how do we know which is the fourth bend? It may be the first, or the fortieth, from where *we* entered it.

So even a conventional cruise over so well-worn a route as the inside trail to Florida, when made in the opposite direction, may present many features both new and interesting. And I soon found out that our cruise was not likely to be a conventional one.

Heartsease was not unlike many other auxiliaries which go down the coast each fall to hibernate. She was 35 feet long overall, and her spoon bow gave her grace and comeliness, and somehow or other it did not cause heavy pounding in rough water. She had a pole mast, and for a rig carried a generous-sized mainsail and a huge jib, which could be replaced in bad weather by a small storm staysail. Under the cockpit, which was small and self-bailing, was a box stall for "One Lung"—a 7½ horsepower single-cylinder—of early model. A more personal bit of cold machinery than One Lung it would be hard to find. He had a wonderful amount of "temperament," and alternated between moods of extreme sulkiness and bursts of energy, which were always attended by aberrations and idiosyncrasies in the form of hesitations, one-steps, violent fox trots and brief

LOCKING THROUGH ON THE DELAWARE AND CHESAPEAKE CANAL

THE SKIPPER TAKES SOUNDINGS IN THE PASQUOTANK

periods of total unconsciousness. At times he reminded me strongly of the skipper.

Two cylindrical tanks of 25 gallons each supplied One Lung with a murky mass courteously called gasolene. The cabin was large and roomy as to two of its dimensions, but only a child could stand erect in it. After cruising in a motor boat, however, the big beam and superior shelf room were tremendous comforts. Contrary to custom, the skipper bunked on the port side. I discovered a possible explanation for this when our first rain arrived, and transformed the deck above my bunk into an admirable needle spray shower bath.

Heartsease had plenty of room below. There was a toilet room amidships on the port side, and a large storage and clothes locker in the corresponding place to starboard. Forward in the eyes was an impromptu galley, and still farther toward the stem, and accessible from the deck by means of a large, round manhole, was space for ground tackle, spare gear and various other paraphernalia. Fresh water was carried in casks on deck. These were fitted with faucets and, by being painted to conform to the color of the cabin roof, were not unsightly. An additional cask was kept below. A light cedar dinghy was sometimes carried on deck, and sometimes towed astern. Such was Heartsease, our home for the northward cruise.

Near the mouth of the big river we turned into Shad Creek shortly after sundown, and speedily fell asleep, the surf pounding heavily on the bar furnishing a tender lullaby.

When skies are fair and seas are calm, all but the faint-hearted make the run between St. Mary's bar and St. John's bar outside, thus avoiding the tortuous windings of the shallow creeks that make up the inside route between these two points. It is only 19 miles by the outside route. But Heartsease's bowsprit was turned at dawn next morning in the direction of the miserable Sister's Creek, as the breeze was a little fresh outside. Caution, I soon learned, was my skipper's middle name. True, it is small wonder that a lifetime spent at sea on three- and four-masters in weather fair and foul should make one mistrust the potential possibilities of "this here little insignificant sampan," as he opprobriously dubbed his sloop. Yet, conditions which I, in my profound ignorance as the skipper saw it, considered fine for giving the little craft a merry run, and sending the red blood tingling through one's veins for joy and zest, the skipper apostrophied as "a blankety-blank monsoon, jest a-layin' for to git us good and plenty."

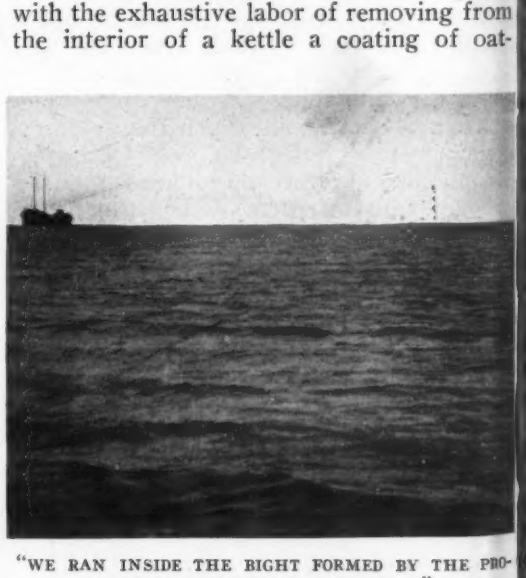
Sure enough, we hadn't proceeded more than a few boatlengths up the dreaded Sister's before the bottom rose up to smite us. We wriggled off, then squirmed on up to Gunnison's Cut, which we struck at high water. Now, it's a bad stunt to tackle a place where the channel is narrow and twists through tidal flats at full high water, for two reasons: First, if you "fetch up," the chances are you'll stay there quite some time; second, the chances that you will thus fetch up are much greater at high tide, for at low water the flats, bars, banks, etc., are exposed to the naked eye, and only the channel itself has any water in it to speak of, thus making it a simple matter to find the right place.

By the process of elimination—a tedious method—we finally managed to locate the trend of the channel and reached Fernandina. Here several big coasters were sleeping at anchor. The skipper knew them all as old friends; he could tell a vessel's name, almost, by a glance at the foretopmast.

Since we had a reasonably long stretch of straight Cumberland River ahead of us now, we set the big jib, and with the southeast wind directly aft made good time to St. Andrew's Sound at the entrance to Brunswick, Ga., and anchored at dark near St. Simon's Mills, where a big schooner was loading wet logs as they floated down the creek to her. It was a warm and pleasant evening, but the first mate, chief engineer, bo'sun, cabin boy and keeper of the log was as cold as the icy mountains of Greenland, due to a too intimate association with the malarial interior of South Florida. The skipper assured me that sea life had made of him an expert physician, surgeon and osteopath, and he filled my mouth with quinine and other evil things, till I retired to my blankets to alternately shiver and perspire.

Life seemed more hopeful next dawn and I took less quinine. The surgery was happily not necessary, while the osteopathy I received informally about twenty hours each day. From raising the big mainsail to removing accursed grease from the stew-pan, there was always plenty to do. Tying a reef in a sou'easter is a cinch compared with the exhaustive labor of removing from the interior of a kettle a coating of oat-

IT'S BETTER TO TACKLE SUCH FLORIDA TIDAL FLATS AT LOW WATER WHEN THEY CAN BE SEEN



"WE RAN INSIDE THE BIGHT FORMED BY THE PROTECTING ARM OF CAPE LOOKOUT"

neal which has been allowed to cool there hrough the ages, till well petrified.

That day it was just one blamed sound fter another. The inside route along the oast of Georgia and most of South Caro- ina is magnificently uninteresting, unvaried nd monotonous. One accustomed to the nspiring scenic changes which the Maine oast affords, or which accompanies a ruise most anywhere north of the Virginia apes, finds the passage of Buttermilk, Al- amaha, Doboy, Sapelo and St. Catherine's ounds, together with the interminable reeks and rivers connecting them, espe- ially wearisome. Nevertheless, all these ve passed that day, and darkness found us n Burnside River, near Skidaway Narrows, elow Thunderbolt, the home of the Sa- annah Yacht Club. It was raining, but he shaking and the quaking of the malaria were vanishing.

We stopped at Thunderbolt next morning nly long enough to get on a little more asolene and to buy a couple of bars of ilk chocolate. These were for the cabin- oy-mate, who concealed them artfully from he skipper, not because he was a tightwad, ut for fear of ridicule from the old eater f salt-horse. Besides, the skipper had omething to drink which he never offered he cabin boy—not even when the malaria ssailed him.

More sounds lay in our course next day; amely, Callibogue and Port Royal. We rossed the latter late in the afternoon, find- ng it exceedingly choppy, which is likely o be the case with an ebb tide and an east ind. Two or three quartering seas slopped heir heads over into the cockpit, but quickly nade their exit by the scuppers over the kipper's toes. We ran up the Beaufort River in the gathering dusk, anchoring well fter dark in Battery Creek off the docks f the quaint Southern town of Port Royal.

Trials and tribulations were the order of he next day. No real cruiser likes to putter nd dabble round these inland creeks and assages that form the inland waterway of bout 300 miles between Charleston and acksonville. We looked forward to harleston and what lay beyond with agerness and impatience. The morning assed off smoothly enough. We stopped at eaufort, S. C., only long enough for asolene and to permit the skipper to chin bit with a couple of old pilots who had urned his wheel on entering the harbor n former coasting days. We ran down the oosaw River and hiked across St. Helena ound, the largest indentation of our coast elow Chesapeake Bay, the jib filled by the risk west wind, adding a full mile an hour o our progress.

One Lung then got upon his ear and re- used to be ignored in the delightful way ve had been doing, starting him off at day- reak and forgetting all about him till we hrew off the switch at night. He seemed o object to his ignitor. We used a file n it and he was placated. The wind was

IT WAS LIKE HOME TO GET INTO THE RARITAN CANAL ONCE MORE

blowing as though it was in a terrible hurry, and while in the South Edisto River it sud- denly became playful and ran away with the chart. With our jib drawing tight, with One Lung pushing hard, and with a fero- cious fair tide, we were bowling along at wonderful speed for Heartsease, and by the time we had come about and returned to the approximate scene of the catastrophe, the invaluable piece of parchment was no- where to be seen. Navigation of the waters which interposed between us and Charles- ton, with nothing but the "Inside Pilot" for a guide, was something to be shuddered at.

The skipper, however, didn't shudder. His language was calculated to thicken the gloom surrounding the despondent and malarial cabin boy. It was hard, commented the disgruntled captain, to have nothing but "a fool landsman" for a shipmate, who didn't know any better'n to let the chart blow overboard. "Is that the low, bushy tree on the right, this here thing means?" he interrupted himself, as we rounded a turn. Evidently it was not, for in another instant we fetched up all standing. It was high tide. More venom in terms of the quarterdeck was poured upon the abused and long-suffering cabin boy. The victor of 40 years of storm between St. John's and Point-a-Pitre evidently looked upon the cabin boy's jaunts about the coast in small motor boats as the diversions of a maniac attended with the luck of a fool.

One Lung perspired with all his might in trying to back us off the confounded sand- bar, till his propeller, with diabolical cun- ning, grasped the dink's painter. He stopped short, panting and disgusted. The tide fell slowly. Heartsease listed more and more. Skipper and cabin boy ignored each other's existence completely, as the floor tilted and the air grew thicker and thicker with male- dictions and Duke's Mixture. At last the tide turned. The floor gradually drew nearer to the horizontal. At 10:30 we kedged off; at 10:40 the dink's painter was untwisted from the wheel, and at 10:41 we turned in. Before another sunset we were contentedly at anchor in Charleston Harbor.

We took it easy for a few days, cleaning ship, inspecting the digestive apparatus of One Lung, filling the tanks and some spare cans with gasolene from the wagon which comes to your dock, and replenishing the larder. We had reached the end of the first stage of the trip, and made ready for the open sea and the outside run up to Beaufort. We were not sorry to leave the marshes and rice fields behind us.

The skipper wished to start on a Thurs- day evening and run a half mile or so, in order not to start on Friday, but the cabin boy's ardor over a movie prevailed, and it was dawn of the fateful day that saw us chug forth from the hospitable old port. Again caution seized the skipper, till it oozed from every pore. To the cabin boy's huge disgust, instead of running down the main channel and boldly striking out to sea, he turned his attention to the marsh creeks, which form an intricate maze, solvable only to the initiated, running between Charles- ton and Winyah Bay. Most yachts omit this troublesome, intricate course, and run outside.

"Well, he'll *have* to go outside at Winyah, by thunder," chuckled the cabin boy, "un- less he takes to a flat car."

When, however, a day and a half later, after enough groundings to make one wish he had a thousand fathoms under his keel, even if land was a thousand miles away, we did get outside, we wondered if we'd get

in again in this world.

That "pestiferous old monsoon" of the skipper's didn't get us then, but we bowled into Little River Inlet under reefed sail alone, as though we'd go clear through the State before we stopped. Of course, it had been dead calm when we had passed out the big jetties at Winyah Bay and headed northeast by east up the beach for Southport. But along about noon the wind got busy and we shut off One Lung. It didn't take long for a big sea to make up, and Little River, some 30 miles west of Southport, looked good to us. The cabin boy shinned the mast to pick up the microscopic buoys which are supposed to mark the shifting channel; we flew between the breakers and across the bar into calm water; the skipper spun her about into the wind; the anchor splashed, and there we were!

"Now blow, ye son of a gun," fulminated the Yankee skipper. "Thought ye'd got us, didn't ye? Well, we fooled ye, by gosh! Now blow your doggoned durndest, if ye want to. We're as comfy in here as in the parlor of the Waldorf-Astoria."

This was a slight exaggeration, but quite permissible under the circumstances. The wind evidently decided to take the skipper at his word, and corked us up in Little River Harbor for two days. In its wake came a drop in temperature which brought fresh shivers to the cabin boy and fresh imprecations from the old skipper. On the third day we managed to wallow over to Southport.

The skipper seemed determined to make up for lost time, since he was paying the cabin boy's board, and that evening grudgingly coughed up a five-spot for a pilot, who guided us across the Cape Fear River and among the marshy islets in back of Smith's Island, on which the giant Cape Fear Lighthouse stands, to Corncake Inlet, out which we passed next morning. This route is possible only at high tide and for boats having a draft of under four feet. It saves some 15 miles of troubled water through Cape Fear Slue, however, and no less than 40 miles if we take the course around the shoals to Frying Pan Lightship. This short cut can successfully be taken at high water without a pilot, by using chart No. 424 and the directions in the Inside Route Pilot. Corncake Inlet is the one nearest the tip of Cape Fear, and must not be confused by one approaching from seaward with Gold Leaf or New Inlets, only a mile and three miles distant, respectively, and both of which are almost filled up.

It was just 6 A. M. when the pilot left us in his little put-put, after easily bringing us out the inlet with a least depth of 6 feet. Scarcely any breeze was ruffling the surface of the calm sea, beneath a clear, blue sky, and the skipper's ever-present pessimism seemed unwarranted that day. One Lung pushed us steadily, if slowly, up the coast for 25 miles or so, then began to cough and skip, finally after repeated backfiring, giving up the ghost altogether. Trust a motor to do that only in critical places!

It is in such times as these that one values the auxiliary. We were on a harborless coast, with weather which might change for the worse any minute, and a dead motor. Blind cranking of the latter did no more than induce lame arms and bad tempers. So we put full sail on her, and a fair breeze from the south'ard having come up, hit up a good pace for our destination. Queen's, Rich, Sidbury, Old Topsail and New Topsail inlets were passed in rapid succession and checked off on the log. Then, after a long stretch of lonely beach, dangerous New River Inlet was passed.

The wind was freshening each instant now and the skipper looked apprehensive. The cabin boy, in his ignorance, was enjoying himself immensely, as the stout sloop sped over the waves, whose size increased by leaps and bounds. By mid-afternoon we were off Bogue Inlet, about 25 miles from Beaufort Bar, and the beginning of an inside route to Beaufort through Bogue Sound. We stood in toward the bar under jib alone, a thundering big sea on our quarter. But even from high up on the mast it was impossible to make out in the smother the dwarf buoys which mark the serpentine channel across the bar. We could see the calm water inside, but between us and it stretched a long line of foam. To miss the channel with that sea running would have meant the loss of the boat, and perhaps of all hands as well. The skipper could not handle the sloop under headsail alone, and with no engine to help, did not dare edge in too far, lest he couldn't claw off from the breakers. Furious at our defeat, we hoisted the mainsail again and put out to sea.

There was a reef in the big sail now, yet the ever-freshening wind thrust us forward faster and faster. Lower and lower sank the lee rail, till the gunwale dipped from sight and the white foam bubbled over the port deck beside the cabin house.

Night had fallen before we arrived off Beaufort Bar—a moonless night, very dark, with a big breeze straight from South Africa piling up great whales of seas. A bell buoy marks the entrance to the channel. What wouldn't we have given to have had an occulting light on it! For we could not find it, its sound being swallowed by the thunder of the surf upon the bar. Unless one makes the bell buoy it is difficult to pick up the range lights, as they are likely to be confused with the lights of the town. To attempt the very narrow channel over the bar without being certain of these guides would have been foolhardy. Even the cabin boy admitted this.

We faced the unpleasant prospect of thrashing about in that sea all night, when the skipper suddenly had an inspiration. Across seven miles of tumbling waters the brilliant first-order light on Cape Lookout gleamed brightly. The skipper remembered the little bight formed by a backward twist of the tip of the cape—as fine a natural harbor as one could wish for. He had been in there with a four-master once when hard pressed and remembered that you only had to put the big light on an east bearing and run for it till at its very base.

Again we made for the open sea with a free wind blowing great guns, till the huge, kindly light bore due east. Then we ran for it. And how we ran! The sky was star-studded as thickly as the leaves upon a tree, and from the hollows we would look up and see the white-tipped crested graybeards towering over us against the background of starry sky. The skipper and cabin boy sat close together in the little cockpit, silent. The skipper may not have felt the wild beauty of the scene, but, at any rate, there was no blasphemy upon his lips then. The dim outlines of his face were set and rigid and his hands clenched the wheel spokes with all their might.

Out of the dark ahead of us came a tremendous crash. The bowsprit! It was pitch dark upon the water; only the stars and the wavecrests showed clearly. Reluctantly surrendering the wheel to the cabin boy with the terse warning that to jibe meant instant destruction, the skipper edged forward over the cabin roof on his stomach to investigate. Presently he reappeared, feet first, in the cockpit, and almost grinned.

"Them fishpoles and oars, that's all." He again took the wheel.

We raced on in the wild blackness till a red light glowed feebly near the big white one. It was the post lantern on Wreck Point, the spit forming the Cape. A little latter we were inside its protecting arm and in calm water at last. It was late evening when the anchor splashed. Outside on the beach the surf roared like thunder. The heart of the cabin boy was thankful; and the body of the cabin boy was weary.

"Damn good thing I put on them new halyards," commented the skipper as we turned in.

For 36 hours it blew a gale, and for 36 hours we stayed put. We cleaned ship, smoked, and worked indifferently upon One Lung with indifferent results. On the second morning after our arrival we put on sail and got underway for Beaufort. This time we found the bell buoy in the gray light of the morning, but were no sooner inside the bar than it fell flat calm. Then came an hour calculated to try men's souls. It was three miles to the wharves of Beaufort. One Lung would go about two boat lengths to a cranking and then expire. 'Nough said! The skipper cranked her 147 times and the cabin boy as many more, till we finally made the Standard Oil dock of the old fishing port.

Here, in the quiet seclusion of the public wharf, and before the eyes of the entire population, we went to work on One Lung. In the end we extracted from the fuel pipe

(*Continued on page 271*)

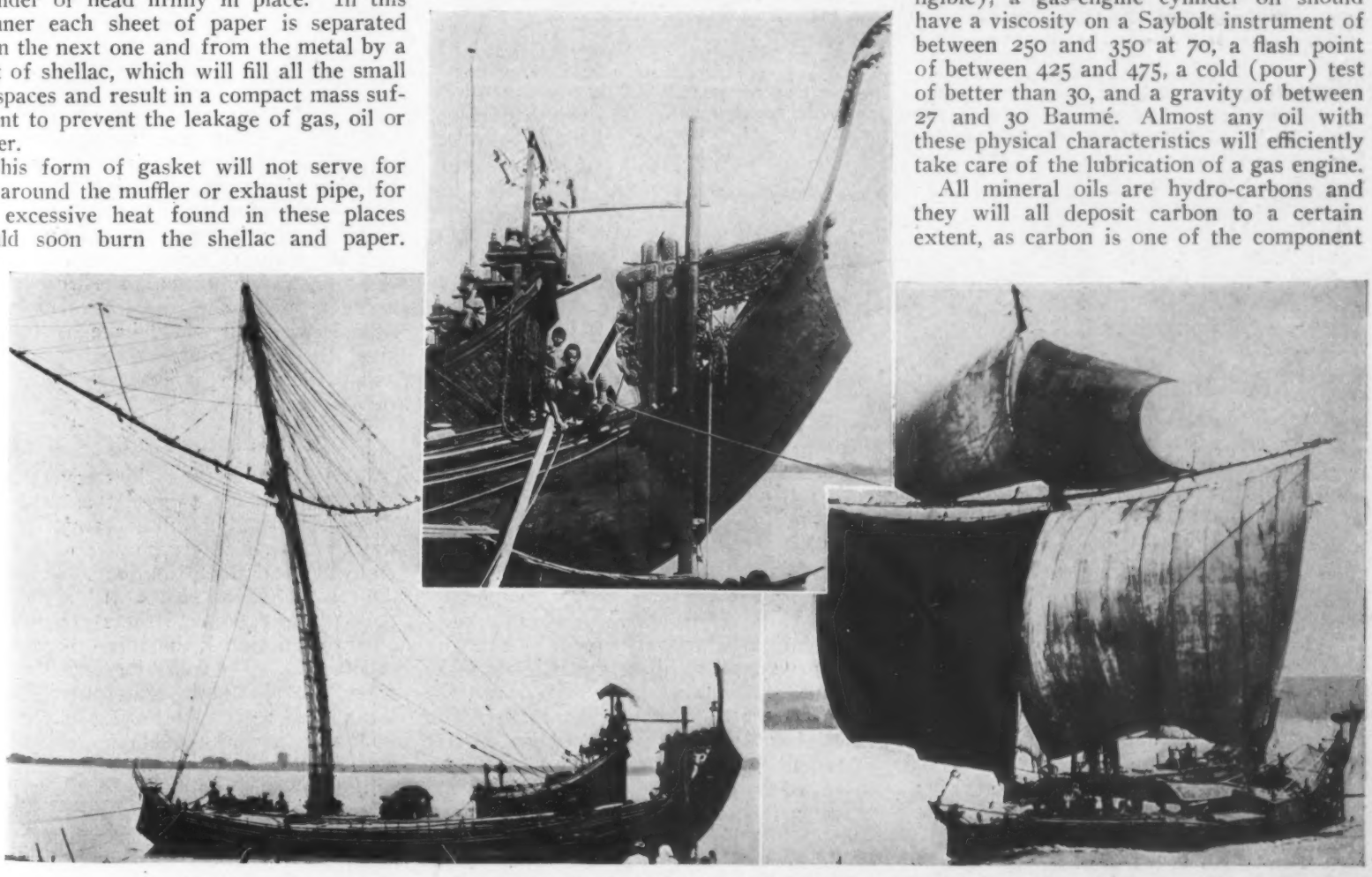
Emergency Gaskets

WHILE most marine-engine gaskets and packing around the cylinder heads are of some asbestos or other composition, it is doubtful if this is any better, or as good as, a few sheets of heavy brown wrapping paper, which, if applied in the proper manner, make as satisfactory and serviceable a gasket as can be found, especially for emergency use with no regular packing at hand. These may be cut to the proper shape by placing the sheet of paper over the surface to be fitted and following the edges and contour by tapping gently with the small, rounded end of a ball-peen hammer. All water-jacket and bolt holes should be passed over in this way, and it will be found that the paper will be cut accurately to the proper shape. Bolt holes, of course, should not be struck very hard, as this would be liable to damage the top thread; but the fibre of the paper will be broken, so that the piece may be removed easily with the fingers. Shellac should then be applied to the surface of the motor where the gasket is to be placed, and the first piece of paper laid on. This, in turn, should be shellaced before the next gasket is set in place. Proceed in this way, making a sort of shellac and paper sandwich, until the three or four pieces of gasket have been used, and then bolt down the cylinder or head firmly in place. In this manner each sheet of paper is separated from the next one and from the metal by a coat of shellac, which will fill all the small air spaces and result in a compact mass sufficient to prevent the leakage of gas, oil or water.

This form of gasket will not serve for use around the muffler or exhaust pipe, for the excessive heat found in these places would soon burn the shellac and paper. For such localities a special form of asbestos packing is made, which will withstand any degree of heat, and which can be very easily applied. A single thickness will generally be found to be sufficient, and this can be cut out in the same manner as the paper gasket and merely laid on the joint.

Burmese Rice Boats of the Irrawaddy

THE typical rice or "paddy" boats in use on the Irrawaddy River differ widely from the junks used on the rivers and coast of China, though the two have a few characteristics in common. They are much more graceful and better proportioned than the junks, have finer lines, and elaborate carvings on their teakwood sterns and topsides, often brightly painted or guilded. The rig is particularly interesting. There is one mast made in two parts and stayed well forward, there being an unusual number of backstays. On this is slung a huge crescent-shaped yard about the same length as the mast with a multiplicity of lifts to keep it from sagging out of shape. Two square mainsails are carried, one on each yard arm, with a separate topsail on each side of the mast above them. There is a high poop deck with a helmsman's seat perched up in the air fully 15 feet above the water. The helmsman steers by a long tiller lashed to a straight rudder post that comes up on one side of the boat.



BURMESE RICE OR "PADDY" BOATS ON THE IRRAWADDY

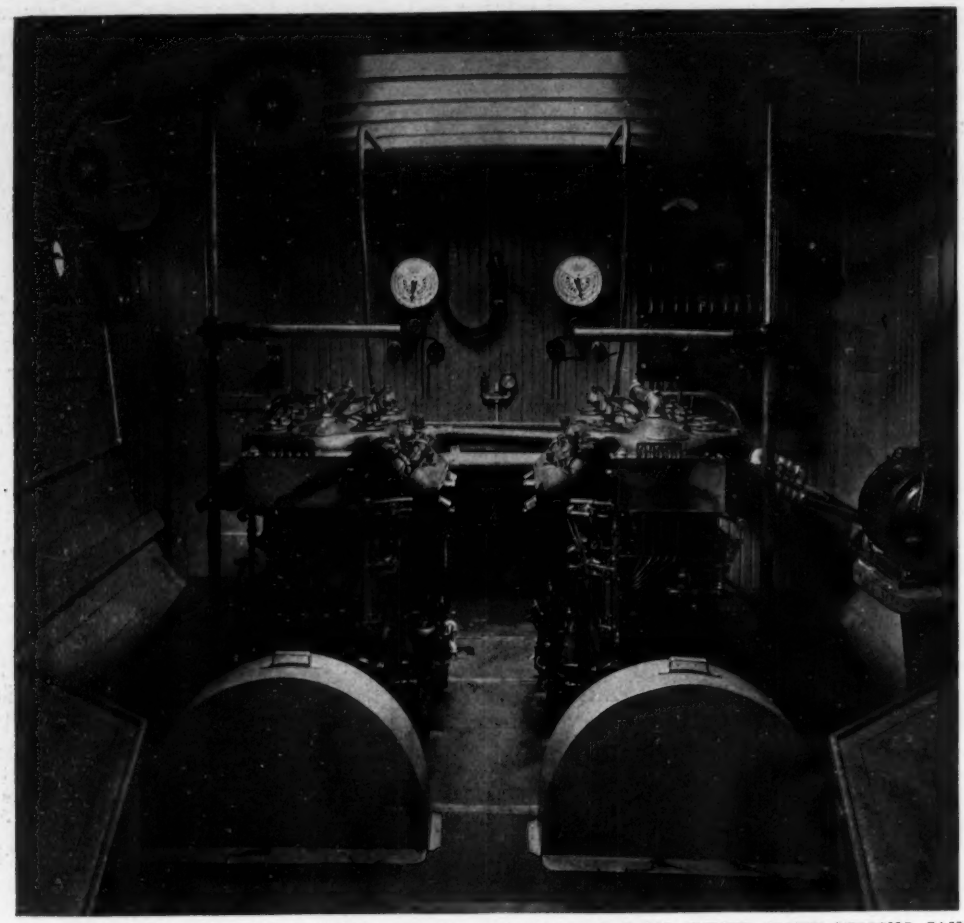
Points that Make for Effective Lubrication

LUBRICATION may broadly be termed the interposition of a soft, mobile substance between two opposing and moving surfaces of rigid or immobile substances for the purpose of preventing the rigid substances from sticking together. Mineral oil is the interposing substance used to-day. The difference between the better and the poorer qualities of it lies in its ability to "stay put." Oil grows thinner as the temperature increases, and, as all friction tends to generate heat, the separating film of oil has a tendency to get so thin that, unless it has a fairly good body, it will not properly separate the surfaces.

If, on the other hand, a very thick or heavy-bodied oil is used, the molecular friction set up among the oil particles will be as great as the metallic friction it is designed to prevent. A selection lies between the two. To be concrete, experience has indicated that an oil having about the consistency of very heavy, rich cream will best answer the requirements.

To be technical (and probably unintelligible), a gas-engine cylinder oil should have a viscosity on a Saybolt instrument of between 250 and 350 at 70, a flash point of between 425 and 475, a cold (pour) test of better than 30, and a gravity of between 27 and 30 Baumé. Almost any oil with these physical characteristics will efficiently take care of the lubrication of a gas engine.

All mineral oils are hydro-carbons and they will all deposit carbon to a certain extent, as carbon is one of the component

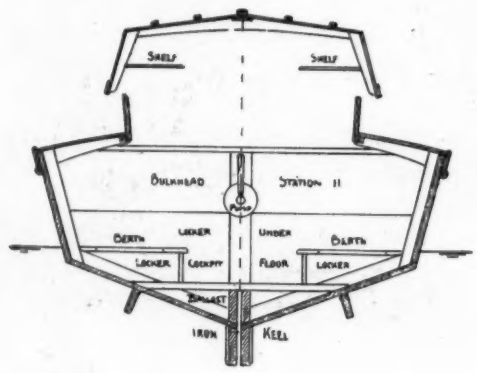


AN UNUSUALLY NEAT AND COMPLETE ENGINE INSTALLATION FROM WHICH MANY LESSONS CAN BE LEARNED. THERE IS PLENTY OF ROOM AROUND BOTH ENGINES SO THAT THEY ARE ACCESSIBLE; THE FLY-WHEELS ARE PROTECTED, EXHAUST PIPING IS OUT OF THE WAY, WHILE DYNAMOS, WIRING, GAUGES, SWITCHBOARD AND ENGINE-ROOM TELEGRAPHS ARE CONVENIENTLY PLACED, YET DO NOT TAKE UP ROOM AVAILABLE FOR OTHER PURPOSES. THE ENGINE CONTROLS LEAD TO THE BRIDGE, AND LEVERS OF REVERSE GEAR ARE SEEN, ONE OVER THE TOP OF EACH ENGINE

elements. While carbon can never be wholly eliminated from mineral oil the amount that it will leave as a residue when it is decomposed by heat may be materially lessened. This can be done in only one way, and that is by an extended process of filtration.

A Dinghy Cabin Top

ONE doesn't always have to have a cabin boat to enjoy cruising. Many cruises have been made in open boats with various arrangements for making a shelter over the cockpit, such as a tent lashed over the boom, a spray hood, and the



like. However, a more impervious and satisfactory shelter can be made by a dinghy skiff inverted over the forward end of the cockpit, if some attention is given to the design of the skiff for use in this way. The sketch herewith shows a decked boat 21 feet in length with an open cockpit, while the cabin top is formed by a dinghy 9 feet long, 4 feet 3 inches beam and 1 foot 10 inches greatest depth. It is not so deep but that it allows the boom clearance at all times, while it gives over 4 feet headroom beneath.

Footing vs. Pointing

EVERYONE knows that in sailing close to the wind the higher we point the slower we go, and the more the boat is kept off (up to a certain point) the faster she will foot. To get the most speed out of a boat the finding of the proper angle where she will point and foot to the best advantage is necessary. Most men do not reduce this problem to figures and do not know how much faster they have to travel through the water in order to make up for the extra distance sailed by laying off a wider angle with the wind.

Starting on four points off the wind, for instance, if you fall off another quarter of a point you will have to cover 5¼ per cent more distance and, to make good, you must travel that much faster through the water. If you lay off an entire point, from 4 to 5, it means increasing the distance sailed by 25 per cent, and your speed must increase that much. These percentages, from 3½ to 6 points, are shown in the accompanying table:

Lay Off			Distance Is Increased by
From 3½	to 3¾	points	4 1/3%
" 3¾	to 4	"	4¾%
" 4	to 4¼	"	5¼%
" 4¼	to 4½	"	6%
" 4½	to 4¾	"	6½%
" 4¾	to 5	"	7 1/3%
" 5	to 5¼	"	8%
" 5¼	to 5½	"	9%
" 5½	to 5¾	"	10¼%
" 5¾	to 6	"	11¾%

There is, of course, always leeway to reckon with, and there is more leeway in pointing high than in keeping off and footing. Lecky gives an illustration of a vessel under short sail trying to look up too high into the wind (3 points) and making 2½ points leeway, whereas if she were kept off a full 5 points, she would have made very little leeway and would have been making good the same course through the water and traveling very much faster.

For Waterproofing Canvas

FOR sail covers, cockpit covers, engine or binnacle covers it is usually desirable to treat the canvas in some way to make it waterproof. There are several ways of doing this. Some owners paint the canvas, others treat it with a coating of boiled linseed oil, and there are numerous other compositions that give more or less satisfaction. The following formula should make an absolutely waterproof coating. Get a small 10-cent bottle of rubber cement such as is used for patching rubber boots, etc., and dissolve it in a pint jar filled nearly full of gasolene, shaking the bottle well until dissolved. Apply this on one side of the canvas with a paint brush, brushing it evenly, and let it dry thoroughly in the sun. This will leave the duck soft and pliable.

Excessive Roach in Sails

THERE has been a good deal of discussion lately as to the value of excessive roach in the leach of the mainsail, held in place by battens. Excessive roach was so overdone a few years ago that rules were formed to prevent it, the method adopted being to limit the number and the length of the battens. Excessive roach used on a racing boat was in most cases added to beat the rule by getting sail that was not taxed, the sail area of the mainsail being determined by measuring the length of the boom (B) and gaff (G), the hoist (H) and diagonal (D). Thus it will be seen from a look at the diagram that the roach indicated by the dotted line was not taxed. It is doubtful, however, if excessive roach was effective on all points of sailing.

Here is what Adrian Wilson, of the well-known sail-making firm of Wilson & Silsby, says about the matter and about trying to regulate it by the rule that is in force: "My opinion is that the amount of roach in the leach of mainsails has been entirely overdone in the past. First they went to an excess in regard to this roach by not taxing it, and then they have undertaken to control it by restricting the length and number of battens that may be put in the leach. No fast-and-loose rule can be established by which the amount of roach can be determined. The sonder class is the only class of which we know where the area is restricted and the area of the roach of the mainsail is included. The roach which we put in the leach of a sonder class sail would average about 9" outside of a straight line;

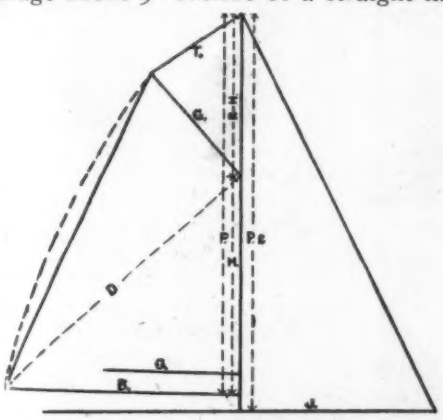
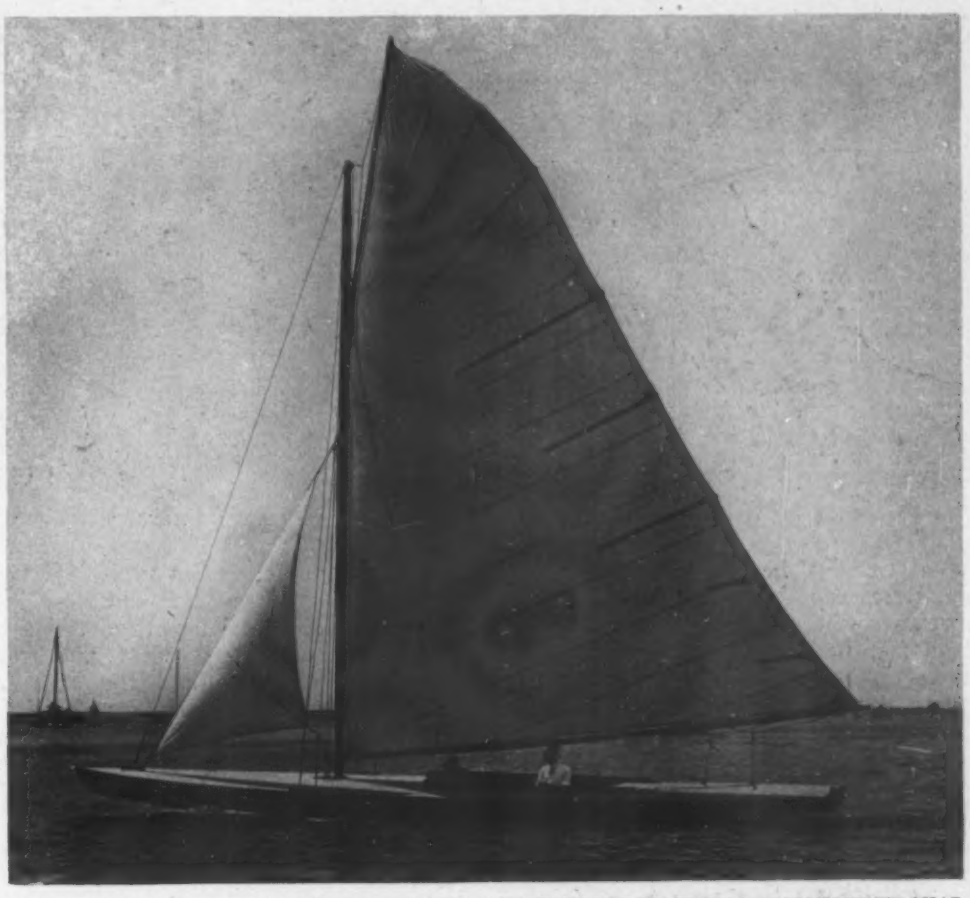


DIAGRAM FOR MEASURING SAIL AREA, SHOWING HOW ROACH IN LEACH IS NOT TAXED

and this is only held in place by the battens, which are about 6 feet long. My personal opinion is that they have overreached entirely by trying to regulate the roach by holding the length of battens to a proportionate length of the foot of the sail, and not taking into account the data which a sail maker has gathered together as to just how much "round" should be put in the leach of the sail. The proper amount of curve to be put into the leach of sail should be left to the sailmaker. There is a certain amount of shrinkage in all American cotton duck, and this has to be taken into consideration when deciding the amount of roach in a sail."



THE SONDER CLASS SLOOP BADGER. THE EXCESSIVE ROACH IN THE LEACH WAS SO PRONOUNCED THAT THE SAIL WAS CALLED A "BAT WING." IT DID NOT PROVE PARTICULARLY EFFECTIVE, AND THE TENDENCY NOW IS TOWARDS A MORE NORMAL LEACH

From Toronto to the Mississippi

Could you tell me if it is possible to sail from Toronto to the Mississippi, and down that river, without having to ship the boat by rail? One of the members of my club has asked me to get this information.

T. FURRALL,
National Sailing and Skiff Club.

It is possible to go from Toronto right through to the Gulf of Mexico without shipping the boat by rail, though the trip is long and parts of it exposed for a very small boat, although it could be done in a good motor boat or sail boat.

The route would be from Toronto, through the Welland Canal, up lakes Erie and Huron, through the Strait of Mackinac, up Lake Michigan to Chicago; thence by the canal that connects Lake Michigan with the Illinois River, down the Illinois to its junction with the Mississippi above St. Louis. You can carry a draft of at least 4 feet through without trouble, except for such sandbars in the two rivers just mentioned as you may run on in not following the proper channel.

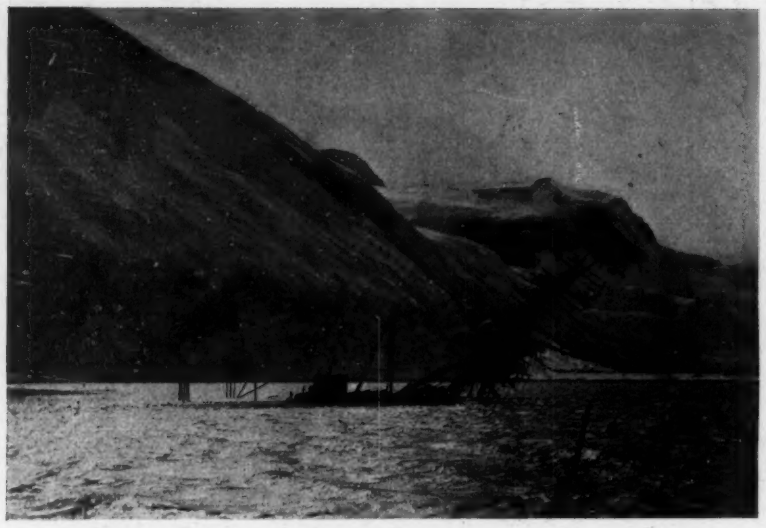
Effect of the Propeller on Steering

Anyone who has steered a motor boat has noticed the tendency of the boat to sheer off to one side or the other, due to the action of the propeller. The general rule can be laid down that in a single-screw boat a right-handed propeller tends to turn the boat's head to port, and a left-handed propeller to starboard. This is caused by the blades at the bottom of the wheel meeting greater resistance than those at the top, which are nearer the surface of the water. This has a tendency with a right-handed wheel to force the stern to starboard, and, of course, the bow to port. With a left-handed wheel the reverse is true. In going astern, the same effect can be noticed, and when the right-handed propeller is *reversed* it will turn the stern to *port*.

This tendency is particularly strong in backing, and it is sometimes almost impossible to overcome the action of the propeller by the rudder. For this reason some boats handle badly and won't turn to starboard when backing. If you know this, you can always look out for it and lay your plans to allow for it.

Performance of the YACHTING "Ideal" Sea-Going Power Cruiser

Some months ago we published the plans of a 40-foot waterline, ketched-rigged power cruiser which had been worked out for YACHTING by Bowes & Mower as one of a series published at that time on the "ideal" boat of various types. This particular boat was designed as a deep-water power cruiser, one of the requirements be-



A WICKED COAST FOR A SHIPWRECK. THE AMERICAN SHIP JABEZ HOWES WRECKED AT CHIGNIK, ALASKA

ing that she could be handled under sail at sea, if necessary, and could be hove-to in bad weather when it was impossible or unsafe to run under power. One of these boats was built by Mr. M. A. Sheridan for use on Chesapeake Bay. He is very enthusiastic about her, as the following letter from him shows:

"While I have all my time pinned my faith on sails and a well-designed hull under me that I had full confidence in, should I get caught in a blow, I could see by experience that an engine in a boat is oftentimes a godsend, as well as a pleasure, especially when you find yourself within three or four miles of a harbor you are bound for at about 5 P. M. and have the wind leave you and an ebb tide set in until long after dark.

"But I am wandering away from your requests as to how I came to have the Onima built, and what kind of an actor she has proved. It so happened about a year and a half ago I sold my yawl, and for the time-being (and a few months after) I was lost to the game, when one day, when looking for something to read in a book store, I spotted YACHTING looking at me on one of the tables. Thinking there might be a good, old-time sailor's yarn or a good cruise story in it, I took it home, and on running through it came across the design of what was called an Ideal Able Seagoing Cruiser. After studying those plans carefully I concluded that whoever that fellow Mower was, the designer, he had been there and fully knew the requirements of a seagoing boat. From that minute on I was the busiest man you would wish to see, figuring how to make that general design fulfill my ideals and requirements. I found it was necessary to build her 2 feet longer, so I got in touch with Mr. Mower, and we soon came to a clear understanding, and he perfected the plans. I had the boat built under the closest kind of supervision. To say she has fully come up to my expectation is not sufficient—she has exceeded them, especially in her all-round sailing qualities, both in light and heavy weather. She is as stiff as a church, and the beautiful way she goes to windward in a stiff breeze was the greatest surprise, as I was not over-expectant in that direction. Under power alone she has no apparent squat, and does wonderfully well, considering her extraorinary heavy construction; but just what that speed is I cannot say, as I have failed to time her on a Government survey, but, roughly speaking, would say eight or nine miles per hour.

A. Briscoe in *Yachting Monthly.*

THE COMMODORE'S SPEECH

The Bermuda Race Conditions

Don't forget that the Bermuda Race for Power Boats is definitely on, and will start from the Crescent Athletic Club, Bay Ridge, at 3 P. M., on May 22. Two boats have already entered—the Cero, a 40-footer, owned by W. P. Frost, of New York, and the Cruisette, a 32-footer, which was exhibited at the New York Motor Boat Show. The former boat is being built for this race, and in design and accommodations is about the most interesting boat that has yet made the trip. Her arrangements are ideal for offshore cruising, so as to give her crew the maximum amount of comfort, while every attention has been paid to safety. The general conditions are as follows:

Boats—The race is open to seaworthy boats not over 60 feet waterline length or under 30 feet waterline length. The rating will be calculated under the 1915 rules of the A. P. B. A., and any form of internal-combustion engine can be employed for propulsion purposes. Boats must carry enough fuel to cover a distance one and a half times between New York and Bermuda, on a basis of one pint per H. P. per hour. Distance is 672 miles. Entries will be received up to May 15.

TRADING SCHOONER NUKAHIVA GETTING UNDERWAY AT THE MARQUESAS

Through Seas of Enchantment

By LEWIS R. FREEMAN

LURLINE OFF PAPEETE SEAWALL

ALTHOUGH one reads much about the changes the opening of the Panama Canal is going to effect commercially, industrially and politically, of the changes in trade routes and the new worlds it is going to open up to the manufacturer and the shipper, I have yet to see any account of what that even means to the yachtsman. In this article I propose to tell something of the new seas to which Panama is the gateway; something of the hitherto almost unvisited latitudes to which any yachtsman of moderate means and with the right stuff in him is able to shape his course, now that the Panama Canal has been opened.

Ideal cruising conditions call not only for frequent and safe anchorages, but also for beautiful coasts and interesting *hinterlands,* where jaunts ashore may break the monotony of days at sea. Stretches of the Atlantic coasts of North America and Europe fulfill these conditions partially, and so do many of these of the Mediterranean; but a combination of all of them is found only among the islands of the West Indies, Maylasia and the South Pacific. Maylasia, absorbingly interesting as are its islands, is too remote for American yachtsmen to consider, and the West Indies are rather an old story; but those mystical latitudes of enchantment, the South Seas, hitherto almost unplowed by the keels of pleasure craft, are now within reach of any owner of a staunch yawl or schooner of 50 feet overall length and upwards. Auxiliary power of some kind is preferable, especially if one has not unlimited time at his disposal, but is not absolutely necessary. Here are hundreds of islands of a scenic beauty unparalleled by any lands whatever; kindly and attractive peoples, unspoiled by the corroding touch of civilization; airs so soft that one may stand a night watch in his pajamas; numerous and safe anchorages, and a wind which, normally, blows strong and steady from one quarter through every hour of the twenty-four.

The Southeast Tradewind, the personification of which some one has quoted as singing:

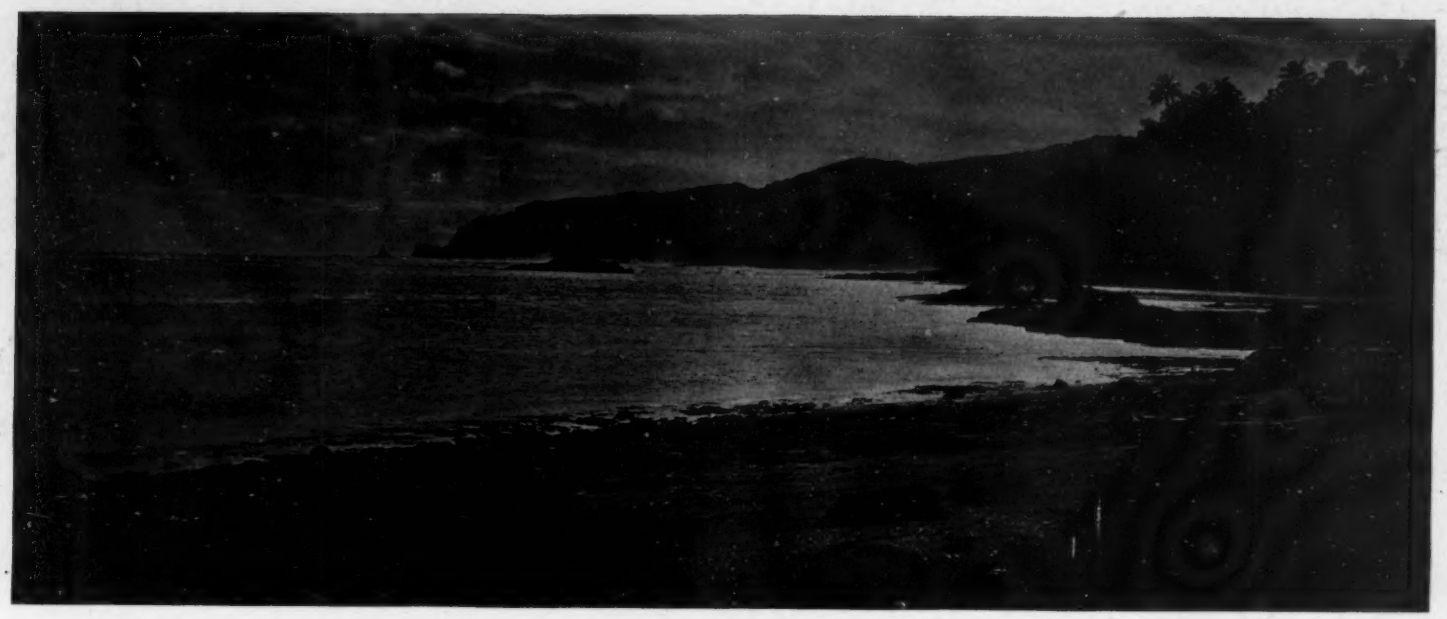
"I am strongest at noon,
But under the moon
I stiffen the bunt of the sail,"

is, perhaps, the one thing above all others that gives the South Pacific the right to be called an ideal cruising ground, for no other breeze which stirs the surface of the Seven Seas is so regular and dependable.

Undoubtedly the first to take advantage of the opening of the new gateway to the South Pacific will be th[illegible] of the larger power and auxili[illegible]ho will seek in fresh latitudes a change from the stereotyped pleasures of the West Indies and the Mediterranean. Naturally these, to whom time and money are small object, will find it easier to undertake the voyage than the owners of small craft. But what I want to lay especial emphasis on is the fact that the South Pacific cruise need not be a pleasure reserved exclusively for the opulent owner of a steam yacht, but that it is a thoroughly practicable undertaking for the owners of small sailing craft, and particularly those who are in a position to make up all or a part of a crew from among their friends. The writer cruised for eight months in the North and South Pacific in a 48-ton schooner; Jack London spent a year or more there in a yawl of little more than half that tonnage, and the three or four other California yachts that have made this voyage are but little larger than the former. The South Sea trading schooners, which, manned by careless and not overcompetent Kanaka sailors, venture out in all kinds of weather, are more often under 50 tons than over, and a number of successful Polynesian cruises have been made from Australia and New Zealand in schooners and yawls of under 30 tons.

Some time in the future I will take up the practical aspects of the South Sea cruise —the best type of craft, rig, provisions, expense, itinerary, etc.—but in this article it is my purpose to write only of a few of the more interesting features of those latitudes from the yachtsman's standpoint, with occasional reminiscences from my own cruise in the South Seas.

Sailing from the Pacific Coast, the South Pacific voyager will find it most convenient



SUNSET ON THE WINDWARD SHORE OF A SOUTH SEA ISLAND

to break the long traverse at the Hawaiian Islands, and then continue on to the Samoas or Marquesas, according to which course he has determined on. For the Atlantic Coast yachtsman the voyage to Colon is only 2,000 miles in round figures, with several interesting stopping places on the way, and the chances good of carrying a leading wind from the point of departure right down to the Northeast Trades, which he strikes about 27 North Latitude, and which will send him bowling through Crooked Island Passage and across the Caribbean. One emerging from the Panama Canal will find himself so far south of the latitude of Hawaii that it will hardly be worth while to head up that way. His natural course will be about west-southwest to the northernmost of the Marquesas, Nukahiva, which lies not quite as far south of the Equator as Panama does north. It is an unbroken traverse of close to 3,600 miles, and would seem like a serious undertaking were not the whistling Northeast Trades likely to be humming over the starboard quarter over half the way, with the still steadier Southeast Trades blowing a point or two abaft the beam for the rest. Lest someone should rise to remark that I appear to have ignored the calm of the "Doldrums," I will say at once that the several degrees of calm, which make crossing the Equator so much of a terror for sailing craft in other seas, are an almost negligible menace in this part of the Pacific, except in the proximity of the South American coast, in support of which I will cite my own experience presently.

This making of a following wind of the Northeast Trade to the Equator does away with one of the bugaboos of all California yachtsmen who have essayed the South Sea cruise—the run from Hawaii to the Marquesas. Theoretically, this traverse should not be a troublesome one, but no one seems to have been able to make it according to his plans. Lurline, in which I sailed, broke all existing records by making the run from Honolulu to Nukahiva in 17 days, but Jack London, in spite of the fact that the Snark had auxiliary power, took something like 60 days, and Robert Louis Stevenson had almost as bad an experience. As I have said, however, no trouble from unfavorable winds will be encountered in making the run from Panama, nor, indeed, if a course is carefully planned, need difficulties with contrary winds be met with at any stage of the cruise.

In the immediate vicinity of Panama light and variable winds may be encountered for a day or two at certain seasons, but ordinarily the Northeast Trade should be picked up at once, and never lost till the line is passed. One may, indeed, pass from one tradewind to the other in a single squall, as was our experience on the run down from Hawaii. For ten or twelve days we had been battling with an annoying succession of headwinds that had kept the luff of mainsail a-shiver day and night, following which there had been a return to normal conditions during which we had been bowling along at a fine rate with the Northeast Trade about abeam. The weather charts were indefinite regarding conditions along the Equator—the result of lack of data—and we took it as a matter of course that we had a week or two of aimless drifting in the doldrums ahead of us. One morning, however, while we were still several degrees north of the line, the wind began to fall light and fluky, finally resolving itself into a tumultuous series of squalls, the last of which, though it drove the yacht off to the west of south at a terrific pace, fortunately abated before anything carried away. When it had passed the wind settled itself contentedly into east-southeast, from which point it continued amiably to purr, except on two or three notable occasions through most of the four months that we spent south of the line. We had literally run from the Northeast to the Southeast Trades in a single squall. Later, on the run from Fiji to Hawaii, we repeated this experience in reverse, and inquiry of skippers all through the islands revealed the fact that this experience is the rule, rather than the exception.

This extract from my personal "log" of the cruise will give some idea of the normal equatorial weather in this part of the Pacific. "As we neared the line the only indication of equatorial weather was in the ever-livelier butterfly chases of the sunshine and showers. The winds, except for increasingly fierce squalls, which we began experiencing regularly in the early watches, were fresh and steady from east-southeast, and so far as any signs of being in the doldrums were concerned, we might have been sailing through a week-long Septemb afternoon off the Golden Gate. Consider ing the freshness of the wind, the sea wa very light indeed, and we were able to carr most of our kites to good advantage as lon as there was sufficient daylight to permi watching the approach of the ever-imminen squalls. On the 7th of April, at three o'clock, we crossed the Equator, just tw weeks after weighing anchor in Honolulu. Air and water were slightly cooler than for some days—each registering 79 degrees Fahrenheit—and so fresh was the steady breeze from the southeast that we stood uncovered in the sun at noonday, and in the shade of the sails felt no discomfort in a rug."

In the vicinity of the Marquesas and other high volcanic islands of the South Pacific heavy squalls are frequent, but are seldom dangerous, unless they take one entirely by surprise. In the daytime they can be watched and prepared for, but at night—and their favorite hour is just before the dawn—they will often get uncomfortably close without making their presence known. One of these festive morning sky-larkers pounced down on Lurline the night before we reached the Marquesas, and came so suddenly that it caught her with all the kites set—we were endeavoring to make a big night's run, in order to make port the

A SAMOAN VISITOR WITH WAR CLUB

following afternoon—and gave us a very lively half hour in saving our canvas. The safe and the sane thing to do, of course, is to carry none of the light sails at night in any of these regions of whimsical weather conditions. South Sea trading schooner captains consider light sails the invention of the devil, and none of the old-timers will take his chances with them. One never sees a South Pacific trading schooner with a foretopmast, and many of them do not carry a topmast on the main. The thing for one to get thoroughly in mind in the South Seas is that ninety-nine per cent of such dangers as there are may be guarded against. There, as on other seas, there is little menace, save in the unexpected. The moral is to take no unnecessary chances. Disaster rarely comes to any but the careless or foolhardy, but a schooner which goes upon a South Pacific beach for whatever reason is gone for good.

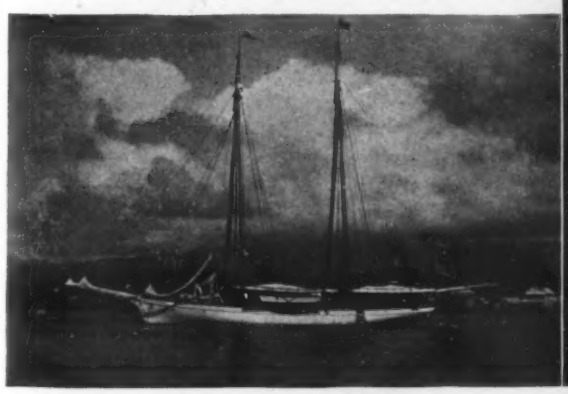
A schooner or yawl, without auxiliary, should make the run from Panama to the Marquesas in from twenty to twenty-two days. A falling off of the Northeast Trade would, of course, make a longer run of it, though with auxiliary power this time could be counted on. This long traverse could, if desired, be broken by a stop at the Galapagos Islands, but as these are somewhat off the direct course, and offer little of interest, besides, it will hardly prove worth the trouble. Taio-haie, the seat of the French Resident of the Marquesas, has a magnificent harbor, both scenically and from the standpoint of utility. Mountain-walled and almost completely land-locked, it offers a quiet and safe anchorage in all kinds of weather, while fresh vegetables, an endless variety of fresh fruits, and fresh meat and provisions can be bought in the village. Any extensive refitting, however, will have to go over to Tahiti.

The Marquesan native is not the least interesting feature of those islands, for his ancestry is indeed a remarkable one. In the veins of the natives of the island of Nukahiva to-day course two strains of foreign blood of widely diverse origin. During the latter part of the sixteenth century and for most of the seventeenth, the island was a rendezvous for a large colony of buccaneers who had chosen that location for the advantages it gave them in preying upon the Spanish galleons plying between Peru and Panama, as well as in raiding settlements upon the intervening coasts of South America. These pirates, after some years of fighting, brought the natives of the Taiohaie district into a state of complete subjection, while their relations with the tribes of the interior appear to have been in the nature of an armed neutrality. The subject natives were employed at sea as sailors and boatmen, and on land as gardeners and herdsmen. The cattle, pigs and goats brought to the island by the freebooters must have been the progenitors of the wild animals of these species that abound there to-day.

A FAIR TAHITIAN VISITOR TO LURLINE

When gold gave out in Peru and buccaneering became unprofitable, the Nukahiva pirate colonies gradually changed back to native villages. After the last of the strangers had died, their descendants, through intermarriage with pure-blooded natives, reverted little by little to the predominating type until the evidences of the blood of the white men survived only in straighter hair and features and harder eyes, a sharper and more uncertain temper and an increase of pride.

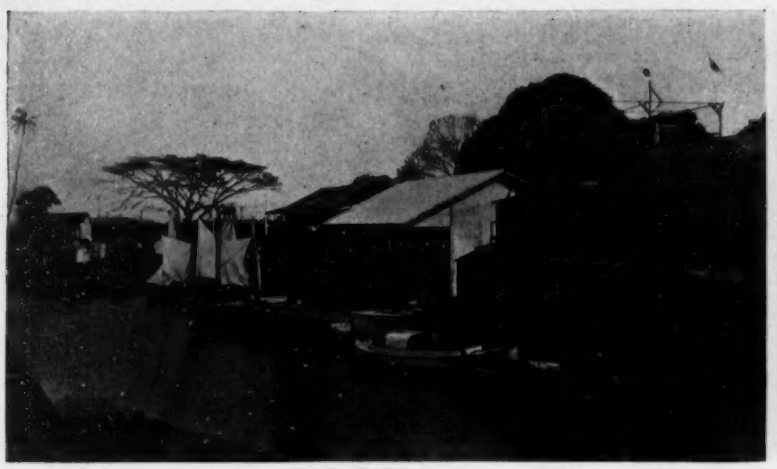
For some decades in the middle of the last century Nukahiva was the base of a large portion of the Pacific whaling fleet. Ships spent months at a time in Taio-haie, reprovisioning and refitting, and the island gained many new and undesirable inhabitants through desertions from their crews. The worst epidemic of smallpox ever recorded in the South Pacific was started from Nukahiva by a maroon from a whaler, and the present-day prevalence of a certain blood disease is directly traceable to a similar source. The moral laxity of the Marquesan of to-day is undoubtedly a legacy of these two occupations by the lowest of the sea's riff-raff, pirates and whalers.



LURLINE IN SUVA HARBOR

BAY OF HATIHEU, NUKAHIVA

WASHING LURLINE'S MAINSAIL ON THE BEACH, PAPEETE



THE RIVER AND LANDING STAGE AT HILO, HAWAII

LOOKING INLAND FROM THE MOUTH OF TAUTIRO RIVER, TAHITI

Physically, the Marquesans are among the finest specimens in the world. Of a dozen natives picked at random from the beach at Taio-haie, there would probably be not over three or four that would not show more or less of his dark head above the end of a six-foot tape, and his breadth and muscling would be in proportion to his height. The women are likewise of good size and figure, and, when undisfigured by tatooing, of considerable beauty as well. Both sexes accomplish prodigious feats of walking, swimming and rowing, and both invariably bear up remarkably under hardship and privation, such as that incident to being driven to sea in an open boat. Outside of their licentiousness, they are kindly and hospitable, and the white visitor may be sure of the best of treatment at their hands, even though they are still subject to outbreaks of spells of cannibalism among themselves.

Beautiful as is the bay of Taio-haie, the glamor of its charm pales before the supreme grandeur of the bay of Hatiheu on the opposite side of the island. Beating into Hatiheu Bay at night, with the perfumed land breeze sweeping the deck, the wake a comet of golden light and the surf bursting in spurts of phosphorence along the beach, is to approach a realization of a coming to the mythical Islands of the Blest.

In sailing from the Marquesas to Tahiti one may break the run with a call at Hivaoa, an island of scarcely less scenic beauty than Nukahiva, and at one of the Paumotous, the name given to the great group of low coral atolls which make up the Low or Dangerous Archipelago. This temptation to loiter and enjoy the beauties by the way, instead of hurrying on to those he knows not of, will be one of the most serious difficulties the South Sea voyager has to contend with, and one that, unless he has unlimited time, he must learn to throttle with stern resolve. It will be found best, in the long run, not to fall very far behind a rough, tentative schedule mapped out in advance.

The Southeast Trades—which usually blow from east-southeast—is a quartering wind on the Nukahiva-Tahiti run, and with the smooth seas which generally prevail very fast time can be made under normal conditions. Lurline made the 750 miles in about three and a half days, and but for a night, under shortened sail, in passing through a treacherous channel in the Paumotous, would have done several hours better. The Paumotous live well up to their name of "Dangerous" Archipelago, however, and it is best to take no liberties with their confusing currents and sudden squalls, especially at night. In spite of their sinister reputation, this archipelago offers opportunities for short stretches of sailing that are, in my experience, unequaled by anything in the world. The following extract from my "log" will give some idea of the conditions that make this possible:

"At a distance of half a mile from the long, low island of Ahii our course was altered slightly to parallel that of the shore line, and in a rapidly smoothing sea, but with an unabated breeze, we began running down the flat, even coast of the strange atoll. From the deck only the cocoanut barrier, a tossing mass of up-ended feather dusters, met the eye to windward, but from the masthead, through rifts in the line, could be seen great, green gashes of the smooth lagoon. Here followed a spell of the prettiest sailing that the good Lurline ever did, or probably ever will do. We were sufficiently close to the steep-to lee shore of the great atoll to be sailing in a sea as smooth as the land-locked lagoon itself, yet at the same time were far enough beyond the wall of the cocoanuts still to enjoy the full force of a moderately strong and wonderfully steady breeze. We were not anxious to get too far in among the islands during the night, and for this reason no light sails were set; yet, under mainsail, foresail, forestaysail and jib, the log was shortly spinning up mile after mile with six minutes and less of interval between each bell."

The mist-wreathed peak of Orohena, the 8,000-foot volcano about which the island of Tahiti clusters, is a striking landfall at any time of the day, but especially so at daybreak, when the sun, rising behind a flank of the island, sets off in marvelous silhouette the matchless "Diadem," the crown jewel of Tahiti's beauty. The "Diadem" is the name given to a row of little peaks occupying the divide between the two great volcanoes that dominate the east and the west ends of the island. They are so symmetrically set that the most unimaginative cannot fail to see their resemblance to the points of a king's crown, a likeness all the more striking when each point is tipped with gold and the whole surrounded by a halo of light from the rising sun.

Papeete Harbor is not land-locked to nearly the same extent as the bays of Taiohaie or Hatiheu, the swell of the sea being cut off only by a partially submerged reef extending across an otherwise open roadstead. Being on the lee side of the island, it is well protected in ordinary weathers, but it is sometimes unmercifully swept by hurricanes and stray squalls which attack from its open side. For one cruising for pleasure the best way to avoid trouble from hurricanes is—not to be there. It is generally practicable to lay one's plans so as not "to be present" during the three or four months in which they are most likely to occur. If one does chance along out of season, however, as happened when Lurline was sailing from Samoa to Fiji, it can usually be weathered either in a snug port or the open sea. Squalls hold really more menace than hurricanes, because of their underhanded way of always coming when not expected. Lurline, through failing to take sufficient precautions in mooring, was caught thus during the month she lay in Papeete Bay and narrowly escaped being driven ashore. Mooring lines to the shore, after the fashion of the trading schooners, will obviate all danger from squalls, and is the safest precaution in the event of being caught in a hurricane.

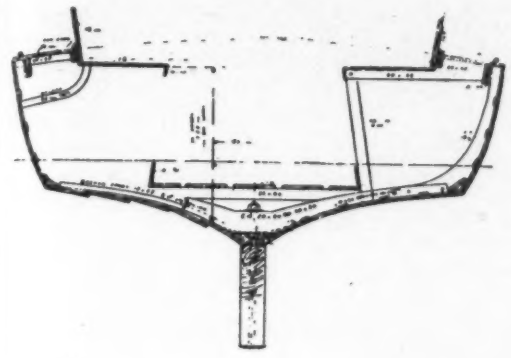
Tahiti is, perhaps, the most written and talked about island of the South Seas. The natives, through their longer contact with civilization, are rather more conventional than the Marquesans, but are not any the less kindly and attractive, while the white residents are the soul of hospitality.

From a practical standpoint, Papeete is all that the yachtsman can desire. It has a small dockyard, where he can refit, or

(*Continued on page 270*)

Hydroplane Yachts

THE influence of the hydroplane is making itself felt in sailing-yacht design in Northern Europe, if we can judge from the plan of a so-called hydroplane yacht that has come to our attention from the board of Mr. C. O. Liljegren, a well-known Swedish designer. The similarity in the concave bottom to the Fauber type of hydroplane, as shown in the midships section, reproduced herewith, has led to the designer calling the new type "hydroplane yachts." The sections of the hull itself are very like some of the modern



stepless planes. The designer claims that this new type, in the smaller sizes, is faster in fresh breezes than regular displacement boats. We do not believe that this is on account of her similarity to a hydroplane, as it does not seem possible for a sailing boat of small size to be driven fast enough to decrease her displacement by climbing up out of the water and "planing." What the design may accomplish, however, is increased stability with harder bilges, yet easy lines, making the boats particularly fast under a press of sail.

Speed With and Against the Current

Please give me an answer to the following: If a boat makes 12 miles per hour in still water, what speed will it make going with a current that is going 4 miles per hour? Several of my friends are interested; some insist that the speed will be 16 miles an hour, while others insist that it will not be more than 14 miles.

U. H. McLAWS.

A boat going with the current will make her true speed in still water plus the speed of the current. The additional wind resistance due to this increased speed will have a little effect on her speed, but not enough to make any material difference. If the boat makes 12 miles in still water and goes with a 4-mile current, she will be going over the bottom at a rate of 16 miles, less any atmospheric disturbances, such as head wind, etc. Of course, in measuring a boat's speed over a measured mile with shore marks, with and against the current, the boat will make theoretically better time for the mile with the current, due to the fact that she travels a much shorter distance than a mile through the water between these two marks when going with the current; while against the current she travels a much longer distance through the water than a mile between the same two marks, owing to the longer time it takes her to cover the distance. In other words, she is in the adverse current longer than she is in the favoring current.

Painting the Bilge

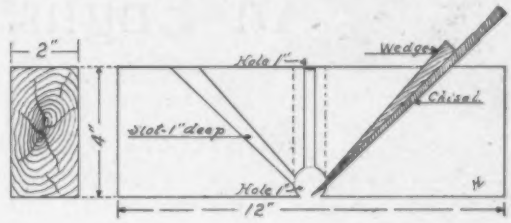
I recently purchased an auxiliary yawl in which I am having some planks replaced. The boat builder who is doing this work claims that the inside of the planking should not be painted, due to the fact that when the boat is pulled out in the winter the paint would hold the moisture in the planks, whereas if they were not painted the moisture would readily pass off and allow the planks to dry out. What he says is probably true, but it is a question whether there is any advantage in letting the planks dry out during the winter, as it is my impression that the wetting and drying of a plank is what rots it, and not the fact that the plank was continually wet. I would like to have your opinion on this matter.

H. F. KOCH.

There is some diversity of opinion as to the advisability of this. Some boat builders invariably paint their planking and frames inside, while others do not. You are right in saying that it is the constant wetting and drying out of wood that makes it rot, and water is, of course, a preservative; but the fact that a boat is hauled out and allowed to dry out once a year during the winter is not detrimental to the wood, provided rain water does not run down into the bilge and evaporate, and provided that the boat is thoroughly aired so that she will not sweat and let moisture form. In England, where they are not bothered by ice, they prefer to keep a boat in the water winter and summer, though the fact remains that for a racing boat it is advantageous to dry her out every year, in order to keep her as light as possible. In painting the planking both inside and out there is danger of any moisture that may be in the wood or that may get in there through the seams being held in and, when the sun strikes the wood, cause evaporation, so that the wood will sweat and rot. Each method has its advocates. There is no doubt that you can keep a cleaner and better looking bilge with painted planks and frames, though the majority of boats are not painted inside below the floors.

A Substitute for a Rabbet Plane

For those who do not happen to have a rabbet plane when cutting the stem or keel rabbet, the figure herewith illustrates a simple method of making one that will answer the purpose well and may be made in a few minutes. Take a 2-inch by 4-inch block about 12 inches long and at the center, close to one side, bore a 1-inch hole; at the bot-



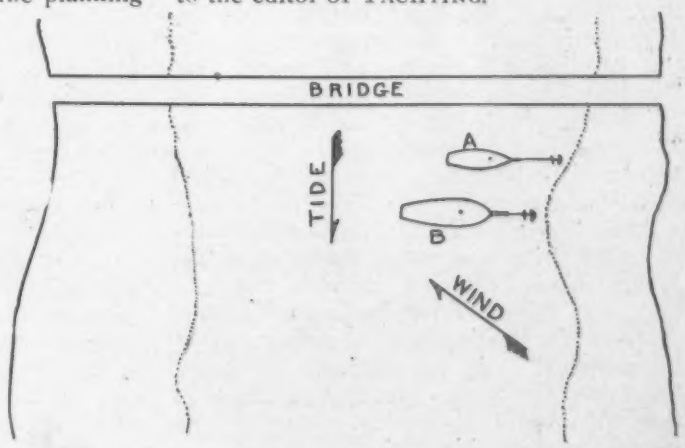
tom side bore in another 1-inch hole to meet the first one, 1 inch deep, so that the bit cuts through the bottom. Then cut a slot at an angle of 45 degrees, wide enough to insert an ordinary 1-inch chisel and a thin wedge to hold the iron in place. If a similar slot is cut at right angles to the first one the iron may be reversed and the plane used in either direction.

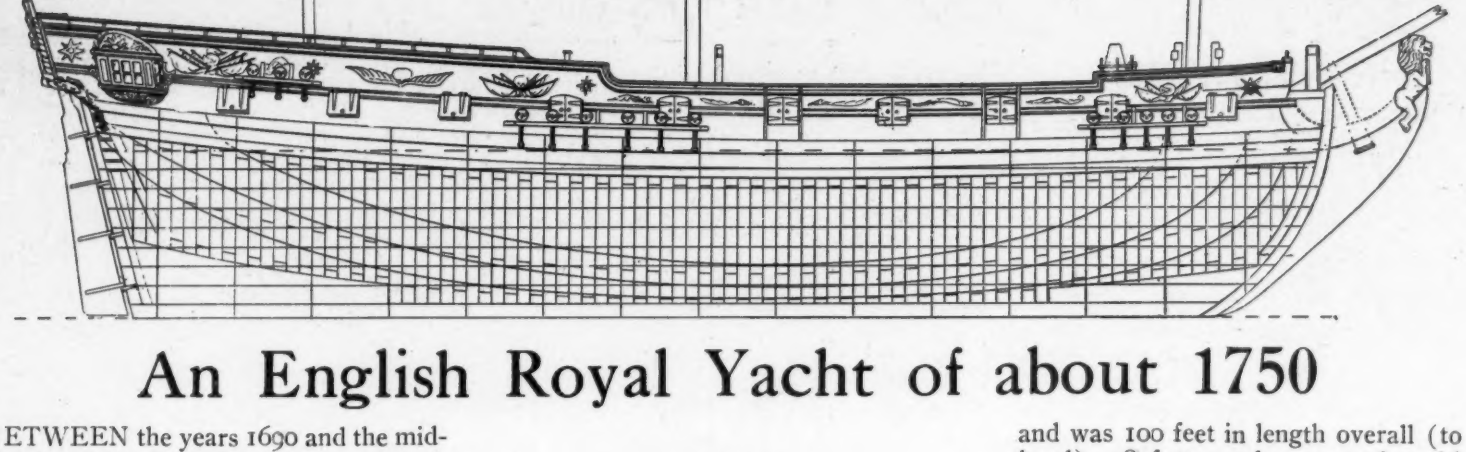
A Seamanship Problem

Here is a problem for the small sailboat man to work out:

Given the conditions shown in the accompanying sketch with A and B anchored close together, tide and wind working across each other, and a bridge crossing the stream as shown, how would you get A under way?

Let it be understood that A is a sloop from 30 to 35 feet long with only one man aboard. He must weigh anchor, get sail on her, and get out without fouling either the bridge or B. The shoal ahead of B prevents her crossing B's bow. The wind is moderate, so that the boats swing, as shown, between wind and tide. Send in your answer in time to publish in the June number, addressing your communications to the editor of YACHTING.

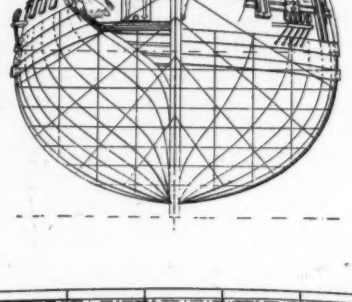


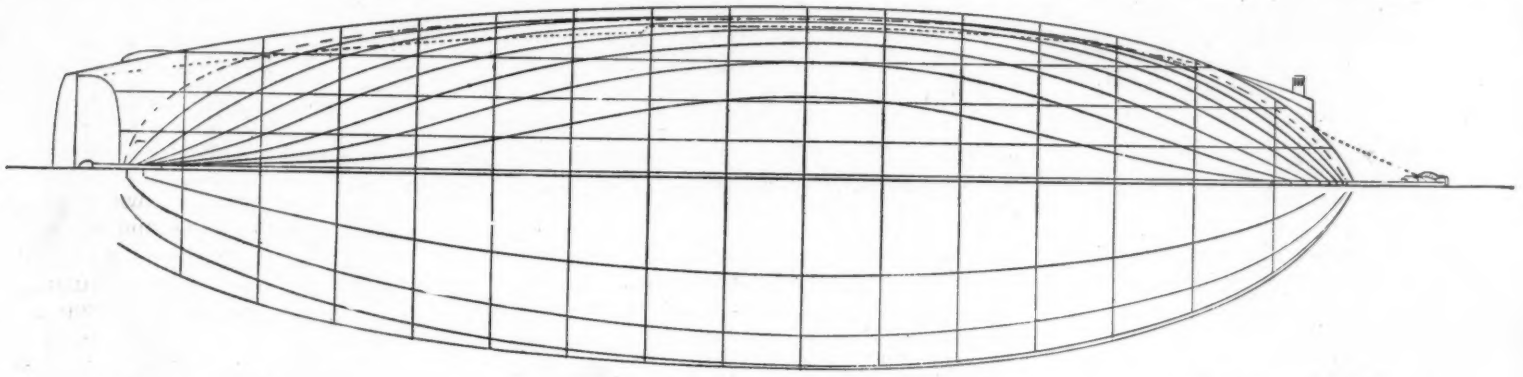


An English Royal Yacht of about 1750

BETWEEN the years 1690 and the middle of the following century, a gradual change had come about in the design of seagoing vessels, and the plans of the English royal yacht shown herewith are in strong contrast to the Dutch yacht of 1690, which appeared in the last issue of YACHTING. The lines of this boat are in great contrast with those of the Dutch yacht published previously, and were taken off from a model by Linton Hope, the English naval architect, for The Yachtsman.

The vessel is supposed to have been the royal yacht of Queen Caroline, of England, its date being somewhere between 1730 and 1750. She was rigged as a full-rigged ship and was 100 feet in length overall (to stem head); 98 feet on the water; breadth (inside wales), 24 feet 6 inches; draft, 12 feet, and displacement, 288 tons. Mr. Hope says of her: "She was evidently built for speed and shows traces of French influence in her design. The workmanship of this model is superb, as also is the design and execution of the carving, particularly the winged mermaids forming the quarter badges. The midship section is almost circular, and no doubt the vessel would roll badly; but if well ballasted she would have been very fast, and her lines are a great contrast to some of the clumsy frigates and line-of-battle ships built about fifty years later."



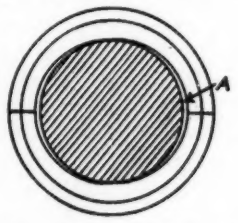


Adjusting Bearings

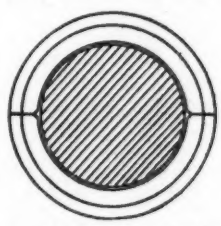
Bearings that are improperly adjusted are apt to cause lots of trouble. The crankshaft is always subjected to considerable stress and wear. Looseness in the bearings due to ordinary wear is easily remedied by inserting a thin piece of sheet brass or copper beneath the bearing and its seat. By inserting or removing one or more of these "shims" the main bearing may be adjusted to the requisite snugness. In case the bearings are considerably worn, new bushings will be needed to obtain a good adjustment, or the bearing may be babbitted. If you've had no experience in this work you had best have this done for you.

To make a perfect fitting bearing smear a little blueing on the shaft, place the bearing in position and rotate the shaft a few times. Upon removing the shaft you will note that the color has rubbed onto some spots on the bearing and these places must be smoothed up by paring down the metal. Steel bearing scrapers ground to a keen cutting edge and in convenient shapes are essential for doing this work.

To scrape in the bearing, considerable care should be taken to scrape away but very little metal at a time, and the "blueing" checking-up process must be repeated until a perfectly smooth bearing surface is secured. By using the scraper so that one stroke will overlap the cut first made, a perfectly smooth surface is easily secured. Rough and worn connecting-rod bearings may be scraped in after the same fashion.



A poorly-fitting big end bearing, showing excessive clearance at *A*



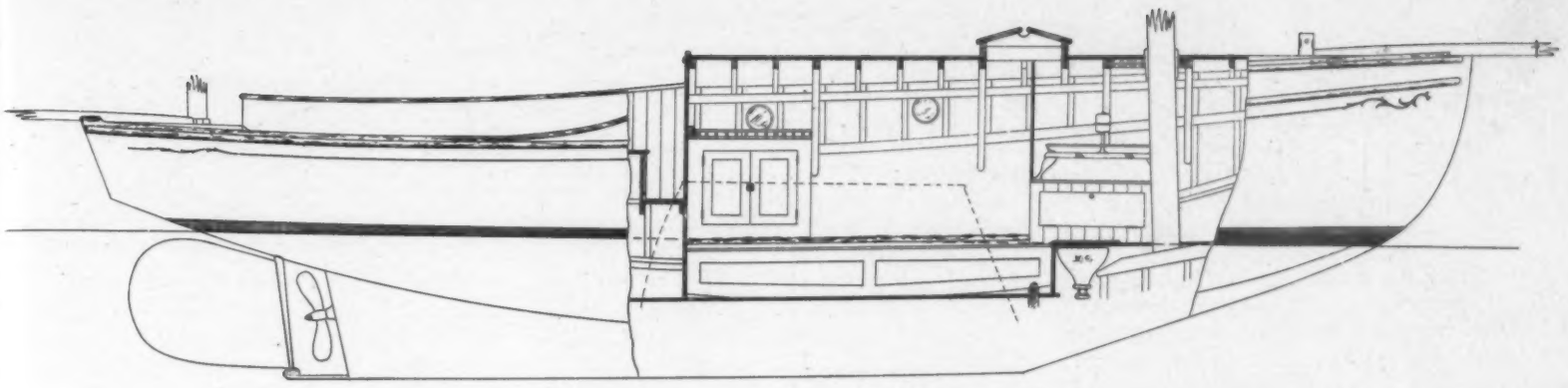
A perfect-fitting bearing, evenly scraped and bearing properly on the crown

In adjusting both the main and the connecting-rod bearings do not make the mistake of setting them up too tight. Slackness in the bearing should, of course, be taken up; but a little play is necessary, and loss of power and rapid wear always result in a pinched bearing.

Grinding Valves

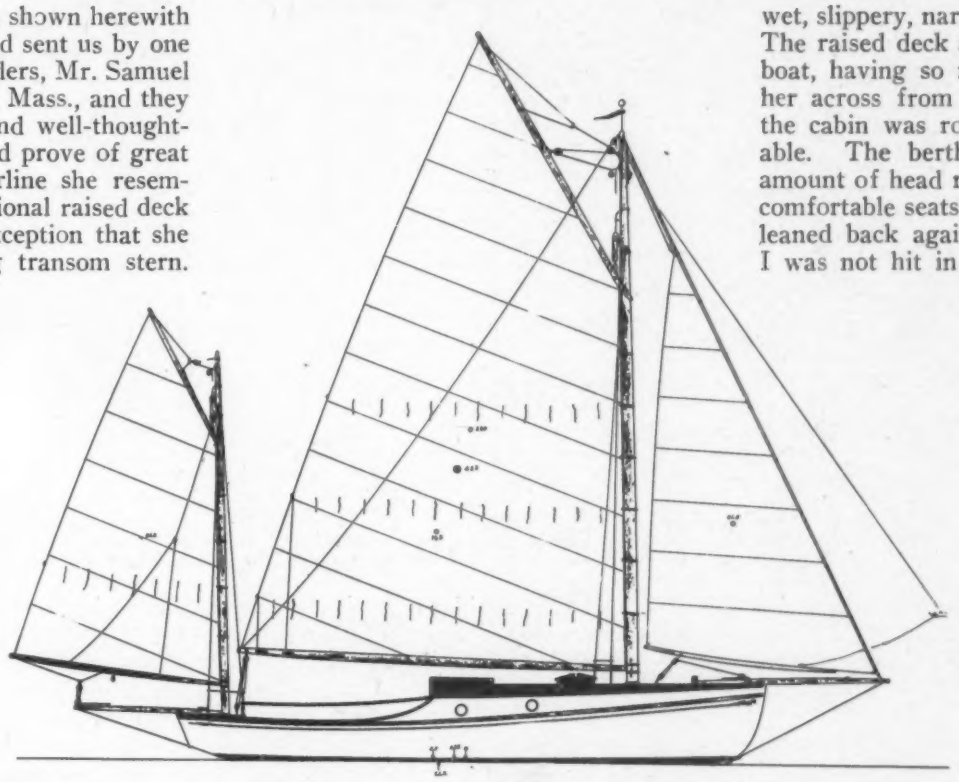
In four-cycle motors the valves will require grinding so that they may fit their seats tightly and retain compression. Emery is the most satisfactory abrasive for this work, but carborundum, powdered glass and pumice can be used. Since the object is to polish rather than scour the metal, nothing coarser than No. 120 Emery should be used. Put a small quantity of emery in a tin cover, add a couple of teaspoonfuls of kerosene and a few drops of some heavy lubricating oil to give it a little more body and to prevent running. Smear a little of this mixture on the face of the valve and on its seat, insert the blade of a screw driver in the slot and rotate the valve on its seat by spinning the handle between the palms. A bit brace or drill may be used to rotate the valve, instead of screwdriver.

Grinding should be continued until the entire face of the valve and its seat is brightly polished and free from any scratches or pock marks. If your valves are in bad shape and require considerable grinding, some labor may be saved by first dressing off faces with a smooth-cut file.



A 25-Foot Raised Deck Auxiliary Yawl

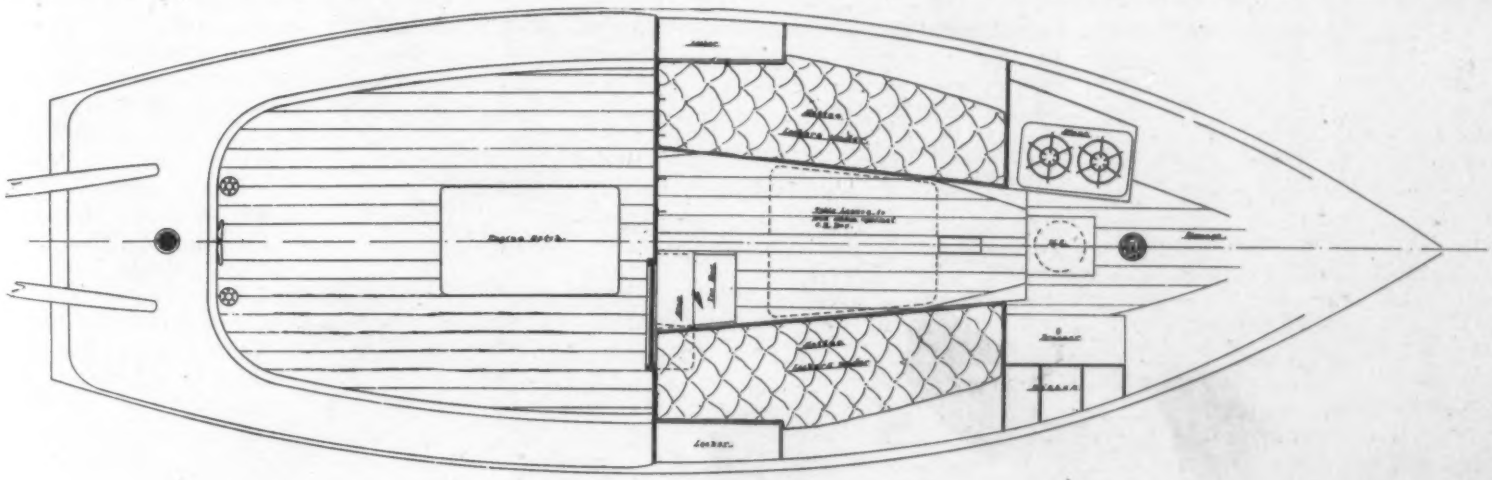
THE plans of the boat shown herewith were gotten out and sent us by one of YACHTING's readers, Mr. Samuel S. Crocker, Jr., of Newton, Mass., and they show a particularly able and well-thought-out little craft which should prove of great interest. Above the waterline she resembles very much the conventional raised deck power cruiser, with the exception that she has a slightly overhanging transom stern. Though only 25 feet in length, she has about all of the room in her that is possible to get in a boat of that size, and she spells comfort and ability with capital letters. She is, in a way, a cross between a power boat and a sail boat, and offers the advantages of both types. She was built last spring at Swampscott, Mass., and her designer and owner speaks most enthusiastically about her performance under both power and sail. He says:

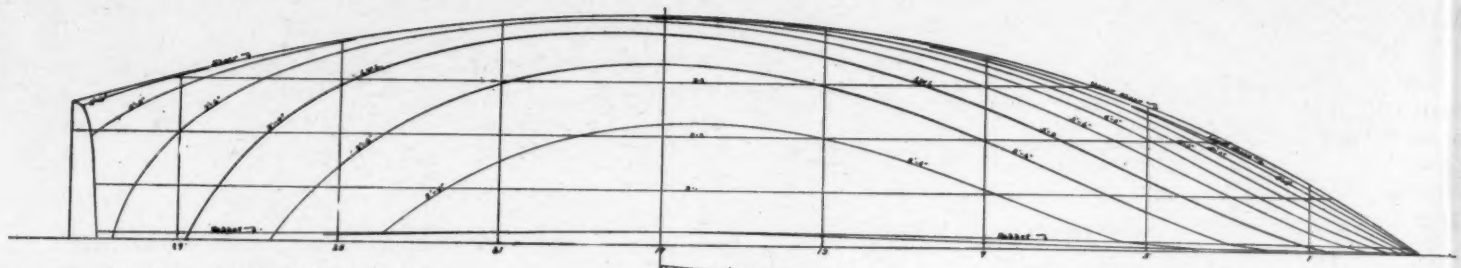


"In getting up the design, I strove primarily for comfort. I wanted a boat of about 25 feet length that would be comfortable below, and one that would be easy and dry in a seaway, as I keep a boat in the water late in the season. Any water thrown at that time of the year is cold and disagreeable. To insure dryness on deck and comfort below, I decided upon a raised deck, instead of the older cabin-trunk type. This gave me added freeboard forward which turned spray and water off very little ever coming aboard. The high, crowning cabin trunk was eliminated, and I could go forward much easier along the centerline of the boat, instead of crawling along the wet, slippery, narrow deck of the older type. The raised deck also gave a much stronger boat, having so many uncut carlines tying her across from side to side, while below the cabin was roomier and more comfortable. The berths, having the maximum amount of head room over them, also made comfortable seats, and when I sat down and leaned back against the shape of the boat I was not hit in the back of the head by the sides of the cabin house, as was the case when I attempted to do the same thing in the old type of boat. Also, that part of the cabin forward of the mast was of some use by reason of the extra five or six inches head room.

"The yawl rig was chosen for ease in handling and reefing, although it was hardly ever necessary to reef her. She carried her whole sail when most of the other boats were double-reefed.

"I have found that an engine is absolutely necessary where there is a great deal of tide, so I made her an auxiliary. The engine is mostly used to save figuring on the tides. It is sometimes impossible to make headway under sail alone with a head wind and tide in our channel. The engine has also proved very handy in changing positions while fish-



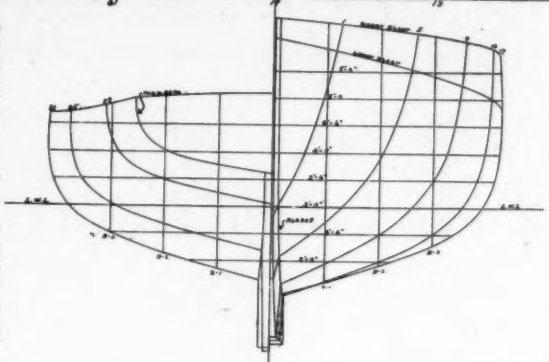


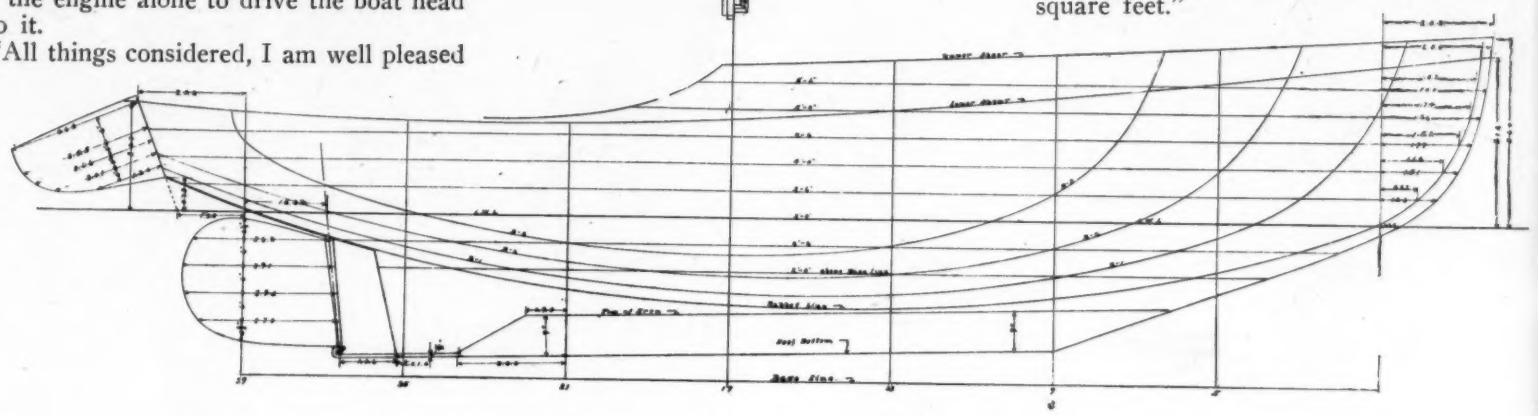
ing, without necessitating the hoisting of sail. I suppose the propeller detracted somewhat from her speed in sailing, but did not hinder her in the least in steering or handling.

"The engine installed was a two-cycle, two-cylinder, six horsepower with make-and-break ignition. It ran perfectly, furnished all the power that I desired, and drove the boat a good six miles an hour. I found no breeze or sea that was too much for the engine alone to drive the boat head into it.

"All things considered, I am well pleased with her. She proved unusually able under all conditions, whether under sail or power, and caused quite a little favorable comment, both from yachtsmen and fishermen. This from the latter particularly pleased me, for I felt as if they, if anybody, should know a good model.

"Her principal dimensions are: Length overall, 25 feet 2 inches; length waterline, 21 feet 2 inches; beam, 8 feet 6 inches; draft, 2 feet 9 inches, and sail area, 423 square feet."





A 55-Foot Power Cruiser

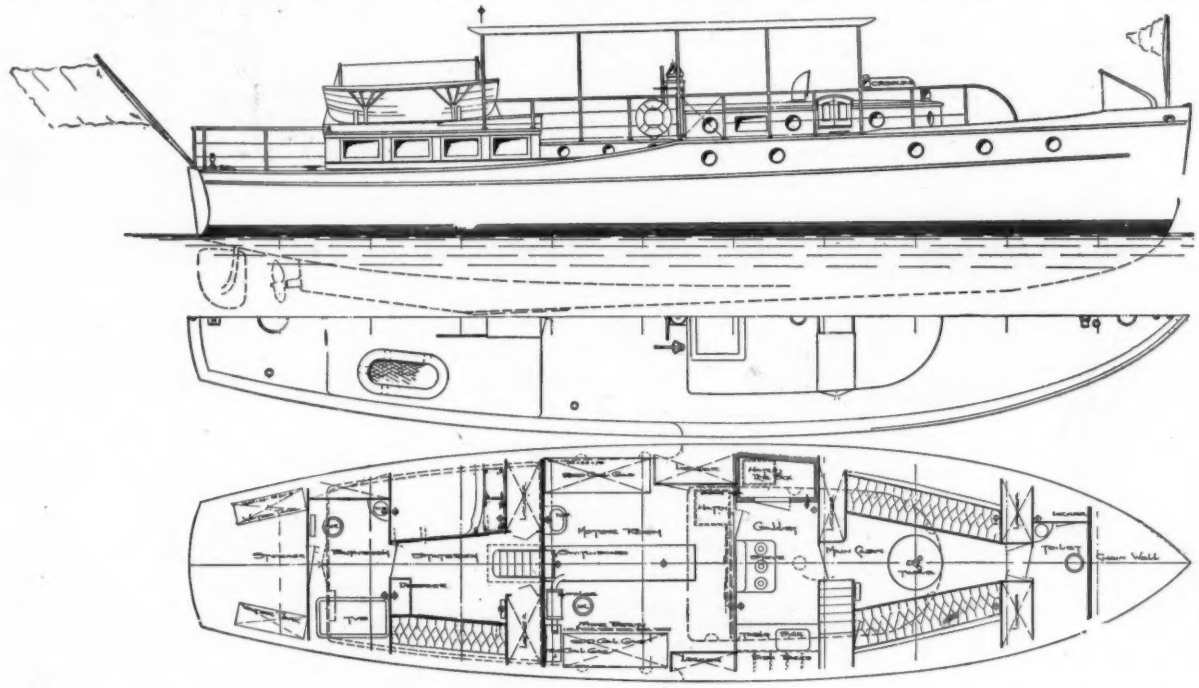
AN order has been recently placed by Mr. Geo. H. Ketcham, of Toledo, Ohio, for a 55-foot heavy-service type of cruiser, the plans of which are shown herewith.

The designers and builders of Cresceus, as the new boat will be named, were given the order on the condition that they produce a boat that could go out in any kind of weather on the Great Lakes, and be perfectly safe and comfortable, speed being an altogether secondary feature. With this in view, the boat was built with a beam of 13 feet, moulded, and a draft of 4 feet 6 inches. The scantlings are very heavy, the frames being large and closely spaced, and the stringer construction particularly substantial. The boat is planked in yellow pine below the waterline, white Virginia cedar above. The general finish is to be kept as plain as possible so as to reduce the upkeep expense, and have the boat easily taken care of.

Various features in the way of equipment have been supplied as special that will reduce the labor on the boat and require a less number in the crew.

The quarters below deck, as may be noted from the plans, have not been cut up into little cabins, but rather every cabin has been given as large dimensions as possible, with good lighting and ventilating effects.

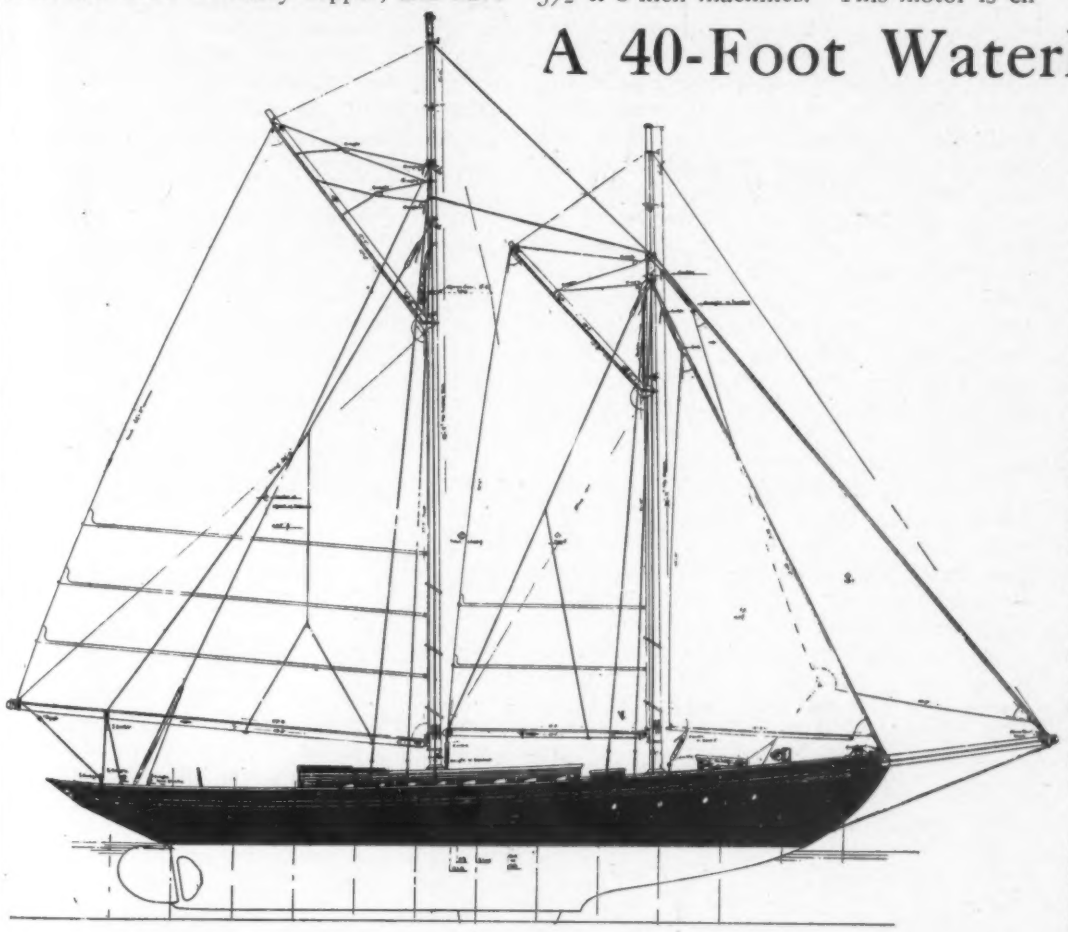
Mr. Ketcham is not figuring on carrying a great many people with him on a cruise, and has arranged the boat as follows: The dining saloon is placed forward and is fitted with two large hanging lockers, ornamental buffet, seats with storage space under, upholstered pipe berths over, making comfortable sleeping accommodations in this compartment for four people should the emergency arise.



The galley extends the full width of the boat, and is made large to give good elbow room for the most essential member of the crew, i. e., the cook. Everything is conveniently arranged. The refrigerator is of large size, holding at least 500 pounds of ice.

The motor room is located practically amidships, and arranged with gasolene tanks on sides of the compartment. The gasolene tanks are made of heavy copper, and have a combined capacity of over 400 gallons. The motor room is built fireproof as far as possible, the after bulkhead being double thickness wood, steel lined on the motor-room side. The floor is covered with corrugated steel. All motor controls are brought alongside steering wheel on deck, for one-man operation. The motor consists of one of the new Sterling 6-cylinder 5½ x 8-inch machines. This motor is entirely enclosed with built-in electric starter and bracket on after end for 32-V. electric generator with silent chain drive. All moving parts are housed, and the motor is of the latest design. A feature in connection with machinery is the fact that there is absolutely no noise, odor, or oil coming out of the motor case. Even the ordinary wheezing at the air intake of the carbureter has been eliminated.

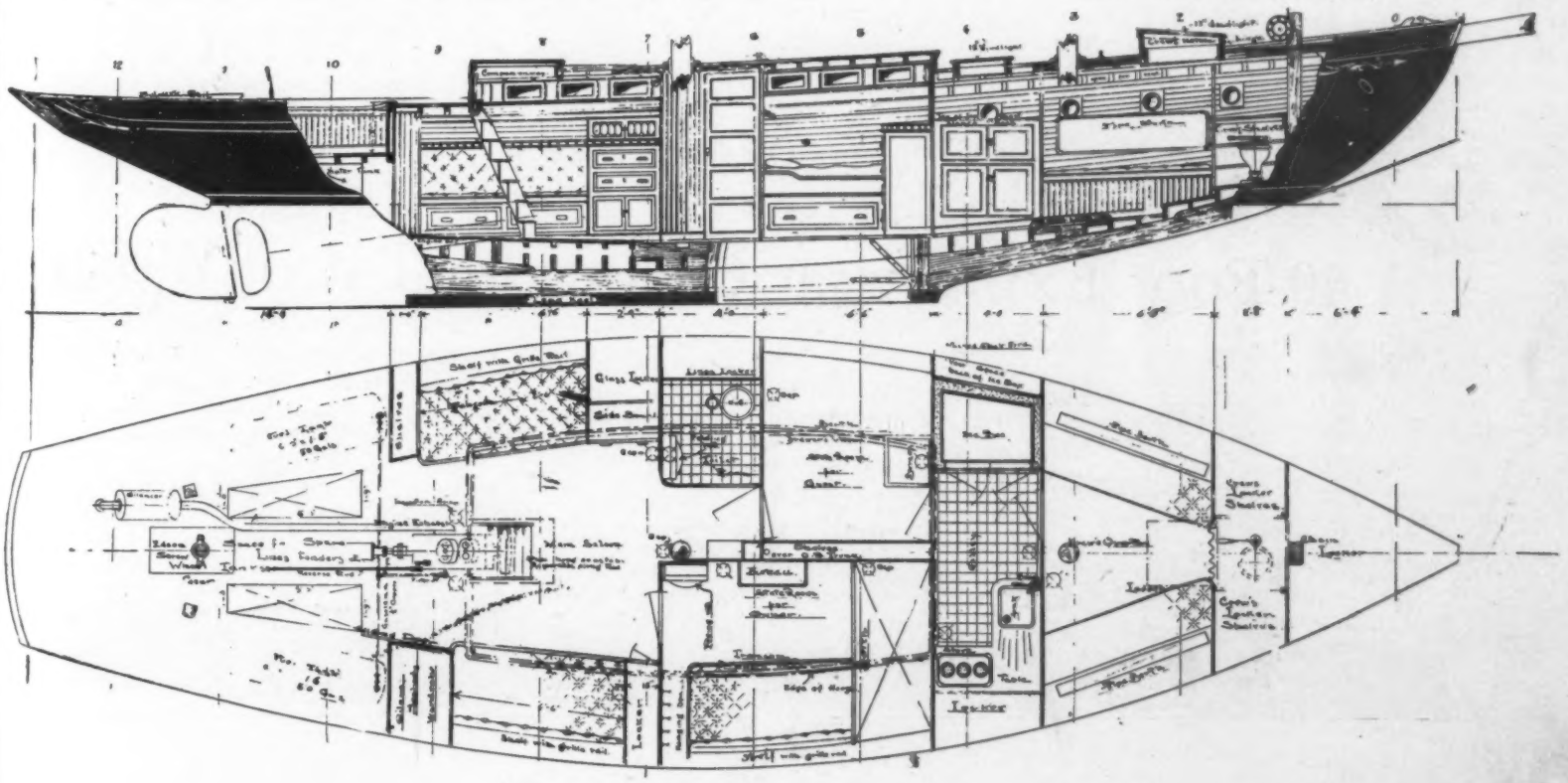
A 40-Foot Waterline Schooner



THE accompanying plans show the auxiliary schooner Lismore, now building from plans by J. Murray Watts for a member of the Seawanhaka Yacht Club. The boat is 55 feet overall, 40 feet on the waterline, 16 feet beam and 3 feet 10 inches draft. The draft is kept low so as to be able to cruise in Southern waters. With the centerboard down the draft is increased to 10 feet. The rig shows a pole mast schooner of moderate sail plan. The forward deck is flush and there is a narrow mahogany deck house amidships. The deck is formed of strips of white pine, holystoned, and high bulwarks with a mahogany cap in the old-fashioned style give good protection to the men on deck.

The accommodations below decks are unusually roomy and consist of a very large saloon aft with two transoms, sideboard, glass locker, wardrobes, etc.; a double stateroom for the owner and a single guest's stateroom with access to the toilet room. A good size galley is forward of amidships and in the forecastle there are crew's quarters for four men and a separate toilet.

Under the bridge deck aft is a 24-horsepower 4-cycle Holmes motor driving a two-bladed feathering propeller. The joiner work both inside and out is of the finest Honduras mahogany.

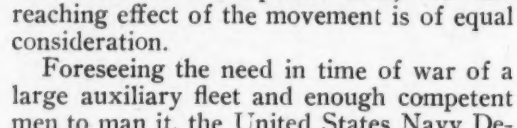


The Motor Boat in War Time

Its value in creating a useful auxiliary fleet and training a body of competent men for a National Naval Reserve

WHILE the primary object of the United States Power Squadron, an organization which has attained national importance in the last year, is to bring about a higher standard of proficiency and seamanship among the owners and operators of power boats and thus eliminate the menace of pleasure craft in the hands of incompetent men, the far-reaching effect of the movement is of equal consideration.

Foreseeing the need in time of war of a large auxiliary fleet and enough competent men to man it, the United States Navy Department has encouraged the Squadron in every way possible, believing that should



A BELGIAN ARMORED MOTORBOAT

occasion arise they would have in it the nucleus of a useful fleet and a trained body of men. That they were wise in this is borne out by the present war in Europe and the use that is being made for national defense of all kinds of pleasure craft, and especially power-driven boats. In England, Belgium and France these little vessels have been doing most valuable work and, though not built for the purpose, many of them have been kept in commission throughout the winter and have kept the sea—if that term can be used—in the face of severe conditions.

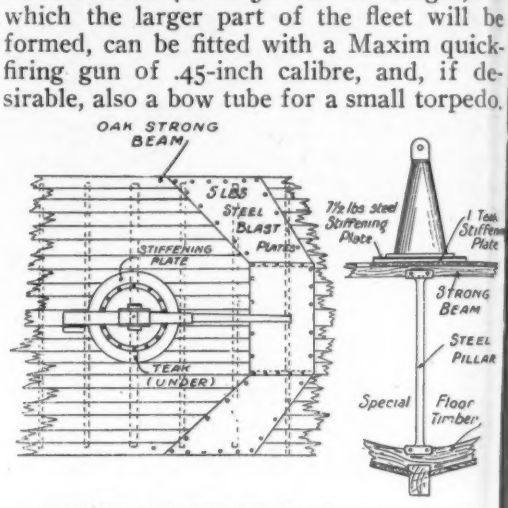
It is stated that in England alone the auxiliary fleet numbers 2,500 vessels, a large part of which are motor boats, and that over 600 temporary commissions have been granted to boat owners and yachtsmen serving with the Royal Volunteer Naval Reserve. In time of war every trained naval officer is needed on regular naval vessels and the manning of an auxiliary fleet must be left to the merchant sailor or to competent amateurs; as many of the latter are more familiar with the type and size of craft in the Motor Boat Patrol or Reserve they are much more useful than those to whom such a vessel is strange.

Of course, the use of this auxiliary fleet is defensive and not offensive. The boats are used principally as a motor boat patrol for the various harbors along the coast, for dispatch service, for use around navy yards and bases and, in a limited degree, for scout duty.

In England many vessels have been lent to the Admiralty free of cost, others have been offered and accepted for service, and still others have been commandeered, the Government, in both of the latter cases, paying all expenses and guaranteeing the return of the vessel, giving paid appointments to owners or such of their nominees as are desirous and capable of manning the vessels. The larger yachts are usually chartered outright and manned by the Government with such officers as are best suited to the work in hand—mostly men from the Royal Volunteer Naval Reserve, many of whom are amateur yachtsmen.

The use of these boats has not been confined, however, to such patrol work, but, in many cases, boats, where suitable, have been fitted with small, quick-firing guns or even with torpedo tubes; and in Belgium, in the early days of the war, it is said that the motor boats rendered yeoman service in many ways, a number of them being armed. One of the armored boats was only 35 feet in length, plated with a double thickness of steel, while the topsides were fitted with loopholes for rifle firing and two small turrets were mounted, each containing a quick-firing gun. This boat was used on the rivers in the vicinity of Antwerp until she was finally sunk in the river Scheldt. There was also an efficient motor boat patrol on the Belgian waterways, and on occasion it inflicted some loss upon the enemy.

A few years ago the Thorneycrofts built several 56-foot motor launches with engines of 100 horsepower, and fitted with a small torpedo arranged in a dropping gear for launching over the side, and it is quite possible to equip the larger motor boats in this way. Many of the boats are, of course, too light to carry a gun, although those that are upwards of 60 feet in length can usually be strengthened so as to carry a three-pounder quick-firing gun forward, the deck being braced by steel struts and steel blast and stiffening plates. The smaller vessels from 40 to 50 feet in length, of which the larger part of the fleet will be formed, can be fitted with a Maxim quick-firing gun of .45-inch calibre, and, if desirable, also a bow tube for a small torpedo.



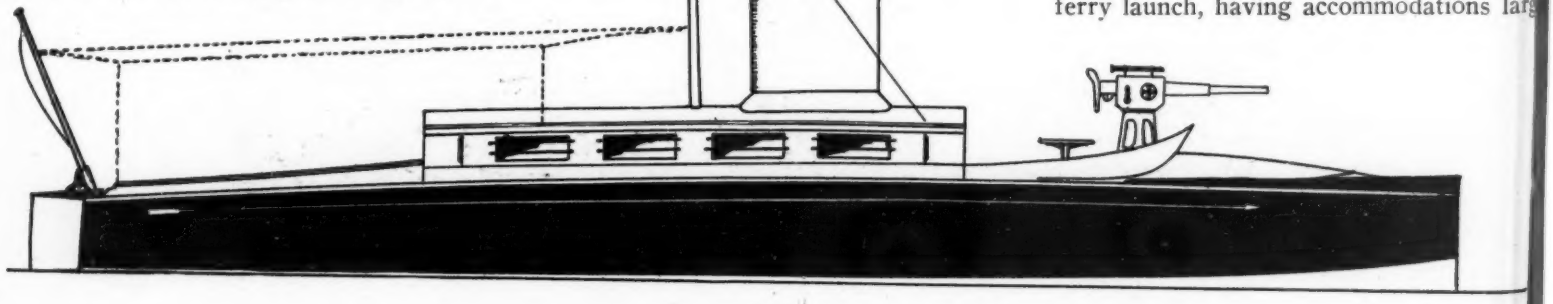
STIFFENING A DECK FOR MOUNTING A SMALL RAPID-FIRE GUN

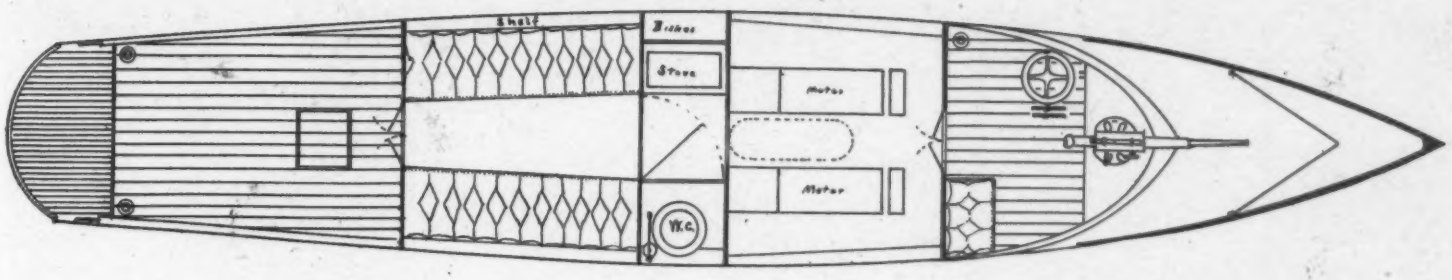
One of the uses which has been found for motor boats is scout duty in detecting submarines, the small boats being about the best craft for the purpose available. They are so small as to make a very poor target for a submarine if she should use the gun with which most of the latter are now fitted for use on the surface, and they are of such light draft that a torpedo would in most cases pass under them without doing damage, while it is not likely that an enemy's submarine would care to waste a torpedo on such a small craft. The modern submarine is faster than most of the small motor boats, but, with a speed of from 15 to 20 knots, a fast cruiser of from 50 to 60 feet in length would have the heels of the submarine, while with the slower boats signalling to a parent ship would call attention to the detection of such an enemy.

A 40-Foot Express Cruiser for Patrol Work

IN view of the use to which motor boats in the belligerent countries of Europe are being put for national defense, Gerald T. White has designed a high-speed motor boat capable of mounting a quick-firing gun forward, and of being used for harbor patrol work.

She is a fast cruiser designed for ferry launch, having accommodations larg





enough to allow two people to cruise for short trips. Her looks, while startling at first glance, begin to impress one with a combination of style and utility as the plans are more carefully studied. The ample open cockpit at the after end is commodious for five or six deck chairs, while the forward or operating cockpit will hold two passengers. In case the boat is to be operated by a paid hand, the man will be isolated from the guests, and will not only be free from annoyance, but he will have a comfortable, commodious cockpit to himself.

Below the cockpit floor there is space for the gasolene and fresh water tanks. The former are piped to feed to the engines under pressure. In the main cabin there are two wide, deeply upholstered locker seats that are convertible into berths, with large drawers underneath. Above the seat backs there is a shelf for small articles, books, etc. The next compartment forward contains the toilet room and the galley. Space was at a premium, so the door separating the toilet from the galley was arranged to open clear across, in order to make one room of the compartment when necessary. On the galley side there is a two-burner stove with dish racks above and behind and a locker for pans and pots below. The ice box is installed under the after deck.

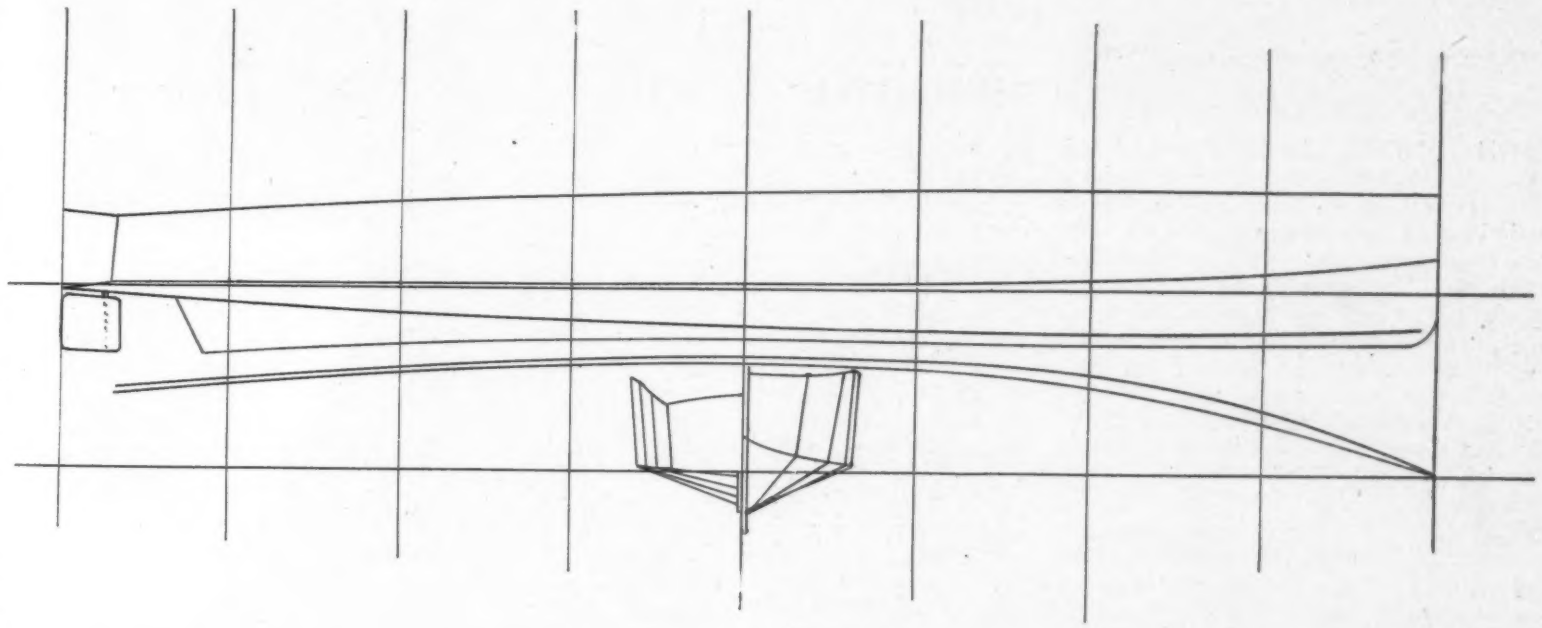
Forward of the galley is the motor room, containing two 65-horsepower high-speed motors which will drive this boat at an estimated speed of 23 miles per hour. If a paid hand is to be carried there is room for a pipe berth over the engine and hanging space on the opposite side.

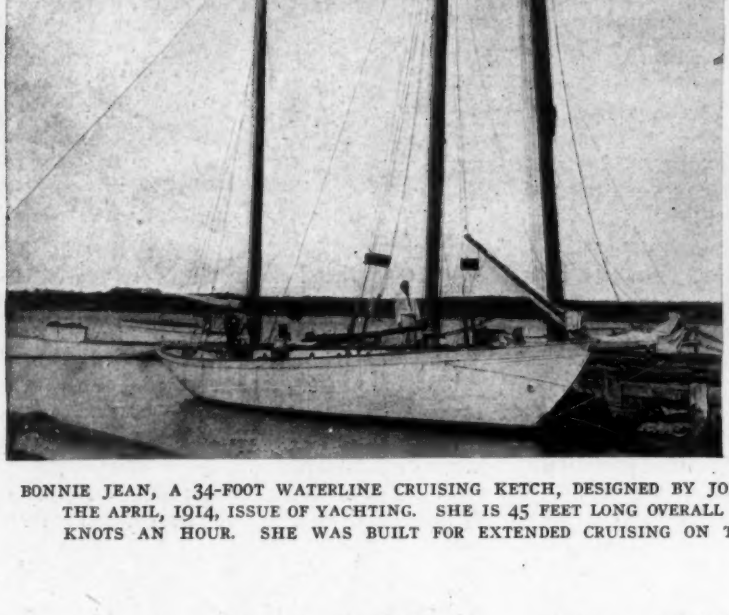
The operator's cockpit is provided with one upholstered seat and a chair can be placed for the steersman. All engine controls are run to the wheel, as well as the electric lighting switches. This cockpit, like the after one, is self-bailing and is fitted with a high, flaring coaming that will serve to protect the helmsman in bad weather. The high, crowned forward deck will shed water quickly. There is a water board around the edge of the deck so as to give a better foothold when it is necessary to go forward. A melon type of spray hood can be arranged over the cockpit for use in rainy or rough weather.

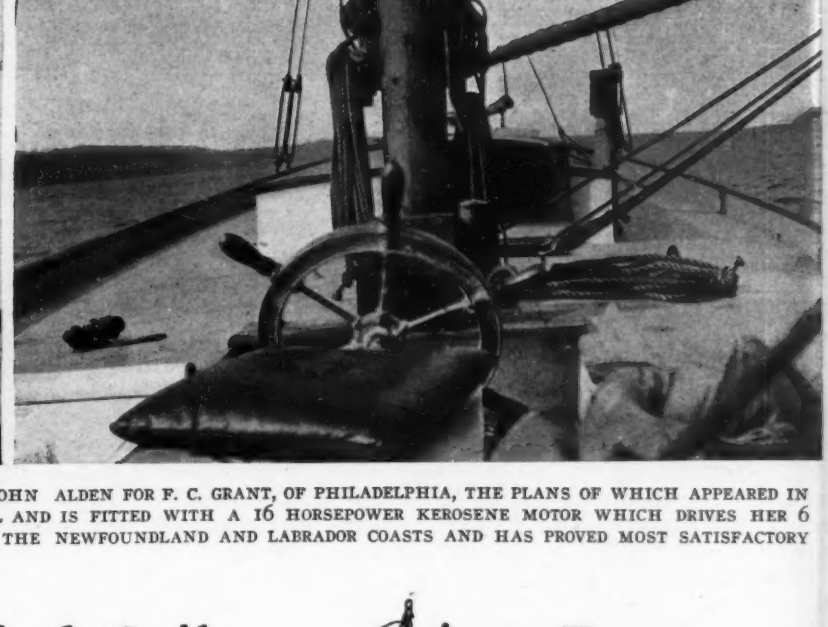
The mounting of the rapid-fire gun on the forward deck is, of course, a matter of individual taste, but there is no doubt that the addition of this serves to increase the snappy, stylish look of the craft.

A look at the lines shows the boat to be of the V-bottom type with an easy entrance and flaring sides for the entire length of the hull. This latter feature makes for dryness in a chop. The beam of the boat is 7 feet and her total length is 40 feet. The extreme draft of the hull is 2 feet.

The designer believes that this boat will be an attractive addition to the growing fleet of high-speed semi-cruisers.







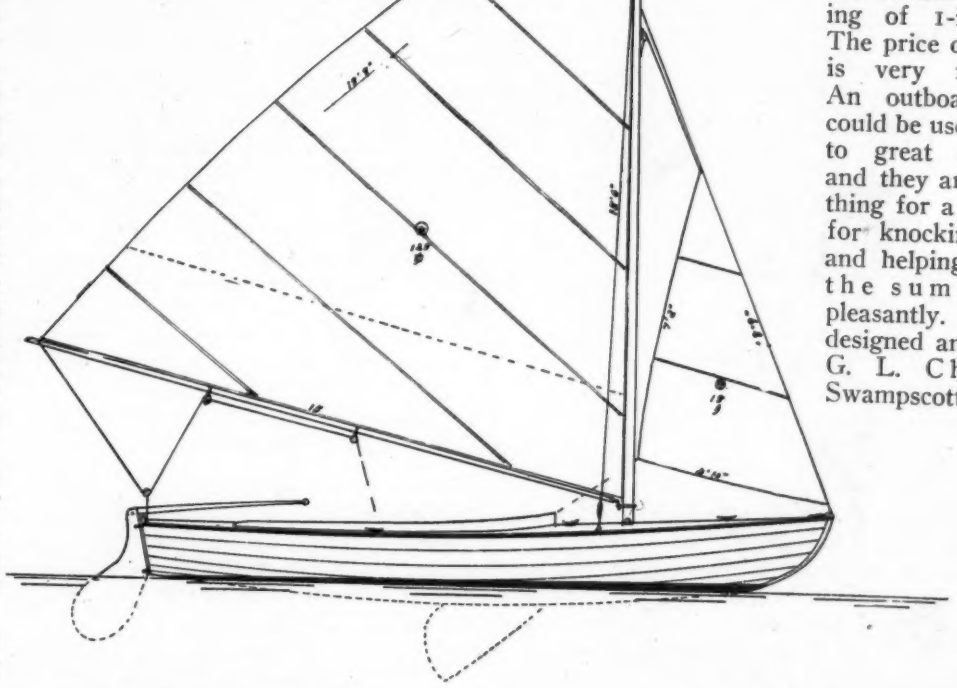
BONNIE JEAN, A 34-FOOT WATERLINE CRUISING KETCH, DESIGNED BY JOHN ALDEN FOR F. C. GRANT, OF PHILADELPHIA, THE PLANS OF WHICH APPEARED IN THE APRIL, 1914, ISSUE OF YACHTING. SHE IS 45 FEET LONG OVERALL AND IS FITTED WITH A 16 HORSEPOWER KEROSENE MOTOR WHICH DRIVES HER 6 KNOTS AN HOUR. SHE WAS BUILT FOR EXTENDED CRUISING ON THE NEWFOUNDLAND AND LABRADOR COASTS AND HAS PROVED MOST SATISFACTORY

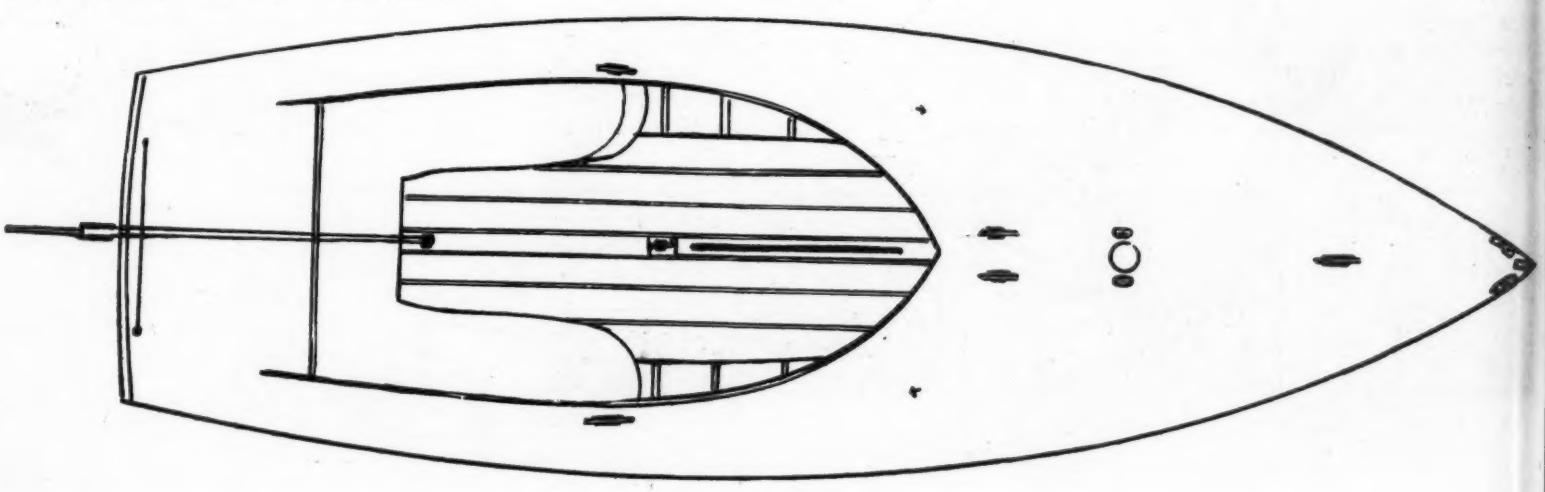
A 17-Foot Modified Sail ing Dory

THE plans of the little 17-foot sail boat shown herewith will make a distinct appeal to those who want a handy boat for knocking around in the summer, for day sailing, or for a small one-design class for some club. As a small boat for boys to sail she is also ideal, being a combination of the dory and the round bilge types. The dory bow is retained, though the stern is carried out with a wide transom, very much after the style of the class X boats on Gravesend Bay. The sheer is straighter than in the dory, the boat being somewhat higher amidships than in the regular dory type. She is decked over and has a roomy cockpit around which is a coaming which helps to keep the boat dry in brisk sailing. There are seats around the after end of the cockpit.

The dimensions of the boat are: Length overall, 17 feet; beam, 5 feet 6 inches; draft of hull, 6 inches; draft with board down, 2 feet 4 inches. The sail area is 143 square feet, 125 of which is in the mainsail. The boats should thus be very fast.

They are strongly built, have white oak frames, spaced 8 inches, while the planking





is of ½-inch cedar the bottom board being of 1-inch pine. The price of the boat is very reasonable. An outboard motor could be used on them to great advantage and they are just the thing for a good boat for knocking around and helping to make the summer pass pleasantly. They are designed and built by G. L. Chaisson, Swampscott, Mass.

Fifty Years of Yacht Building

The Growth of the Best-known of American Yacht Yards from a Small Beginning to the Greatest Yacht-building Plant in This Country

THE death last month of George Lawley, at the advanced age of 92 years, recalled to the older generation of yachtsmen the small New England yacht yard that was founded when yachting as a sport in this country was in its infancy, and grew as the fleet of pleasure craft in this country increased in proportion, until its name spread beyond local waters and became known wherever yachts were sailed. To the present generation, unless they happened to come into personal touch with some of the members of the famous boat-building family, the name recalled merely the large plants that the firm has occupied during the last fifteen or twenty years.

There is probably no name so closely identified with the development of yacht building in this country as that of Lawley, covering, as it does, a period which saw so many changes take place in the design and construction of yachts—first, the growth from small boats to large ones, then from wood to steel construction, and from sail to steam, and then to internal combustion power. To the average man the story of the development of any successful business is intensely interesting, and to those who are lucky enough to own boats the story of the growth and development of the Lawley plant makes a special appeal. Starting nearly fifty years ago in a most unpretentious boat yard in Scituate, Mass., when a 20-foot catboat was a leviathan, it has become the largest yacht yard in the country and is capable of turning out the biggest of pleasure craft.

The founder, George Lawley, was born in London, England, in 1823. A descendant of a long line of ship builders, he was, following the English practice, early apprenticed to his father's trade. Having completed his apprenticeship, in a spirit of adventure he left his native land, and with his little family of wife and baby he sailed for America in 1851, landing in Boston.

The activities of the East Boston ship yards, builders of many of the famous American clippers that in the middle of the last century carried the American flag to every port of the world, and then in the zenith of their prosperity, attracted him at once, and he immediately found work and settled there. His family was increased by another boy and girl, and the little ones were educated in the local public schools. As soon as the boys were old enough they started to work. The elder, George Fred (whom the present-day yachtsmen know as the head of the firm), followed the family bent and took up the adze with his father.

In 1866, after grave consideration by the family, they moved to Scituate, where Mr. Lawley, with the assistance of his oldest son, opened up a little boat yard under the title of George Lawley & Son, to do the work for the local fishermen and the boating public. It was a very small business, rarely more than three or four men, all told, working at a time. Financial resources were limited. The boats turned out would hardly be called yachts these days, but though small in size their excellence was unquestioned. The Lawley reputation for good work soon spread around and orders began to come from Boston and other nearby places.

In 1874, upon the representation of some influential members of the Boston Yacht Club, the Lawleys concluded to move their little business to South Boston, where on land adjoining the club's quarters at City Point they built a storage yard and shop and took on larger orders. This proved to be a good move and their growth was steady, if not rapid.

GEO. LAWLEY, THE VETERAN YACHT BUILDER, WHO DIED RECENTLY AT THE AGE OF 92

In the course of ten years it was seen that the available space at the club house was not enough to give room for building the larger yachts that were then beginning to be called for. Interest in the defense of the America's Cup was stimulating the desire for more spacious and comfortable boats. The Lawleys felt that they should have more room. Casting about for a site they found, on the north side of City Point, facing Boston Harbor, an unoccupied piece of shore property containing about eight acres of upland and flats. It was in an undeveloped condition and it required some little nerve, with their limited resources, to undertake to make a boat yard of it; but courage and firm faith in the future carried the day. The new site was secured and the dredger, pile driver and dump cart put to work.

The Cup defender Puritan was one of the first yachts laid down at this yard. There soon followed the 1886 Cup defender Mayflower, the schooners Margaret, Merlin and Sachem, as well as many smaller yachts. As the ground was needed for business, it was graded and general improvements made all along the line.

At this time Edward Burgess jumped into fame as the designer of the successful Puritan. He became the leading yacht designer in the country and placed many orders with the Lawleys. Their well-known fidelity to the details of construction, in connection with the genius of the great designer, resulted in larger opportunities for both, and the work turned out at this time became the standard of the yachting world.

When Mr. Burgess died in 1891 his loss

IN 1881, THIRTY-FOUR YEARS AGO, GEO. LAWLEY & SON OCCUPIED THIS SMALL YACHT YARD ON THE SOUTH SIDE OF CITY POINT

THE LAWLEY PLANT AND YACHT BASIN ON THE NORTH SIDE OF CITY POINT IN 1900. THE BUILDINGS AT THE RIGHT WERE AFTERWARDS BOUGHT BY THE CORPORATION TO INCREASE THEIR PLANT

to the Lawley business was keenly felt; but good workmanship brings its own reward, and the name of Lawley could not be forgotten. Orders from other architects from distant parts came in to fill the gap and the business continued to thrive.

For some time the firm had felt that it was handicapped through not having facilities for building steel vessels. The use of steel as a stronger metal in naval construction had been supplanting iron and, especially in yacht work, had been the means of saving weight as well as increasing speed. In order to keep up with the times, they invited Mr. Thomas Hibbard, in 1890, to join them in incorporating the business and installing a steel hull department. With added capital the plant was thus rounded out and the scope of the concern broadened. Mr. Hibbard took the office of treasurer, as a part of his duties, and has continued to hold that position to the present time. George F. Lawley was chosen president and has continuously held the chair since.

At this time George Lawley, Sr., retired from active interest in the corporation, although he held financial interests to the day of his death and spent many hours in going through the works inspecting the boats that were being built and dropping kindly and valuable words of suggestion which his long experience enabled him to do.

A few years later came the machine shop, tinsmith shop, electric shop, and so on, until finally every department required in turning out the completed vessel, whether steam, motor or sail driven, was to be found on the ground, equipped for solving the most intricate problems of marine construction.

The concern has of late years confined its products strictly to pleasure craft, though in earlier years it has been tempted to devote its activities to broader fields. It has built two torpedo boats for the United States Government and a few small passenger boats, but in general has followed the idea of having a specialty and sticking to it. Its success is another illustration of the power of specializing along a definite line.

GEORGE F. LAWLEY, THE PRESENT HEAD OF THE FIRM, IS KNOWN AS THE "DEAN OF AMERICAN YACHT BUILDERS"

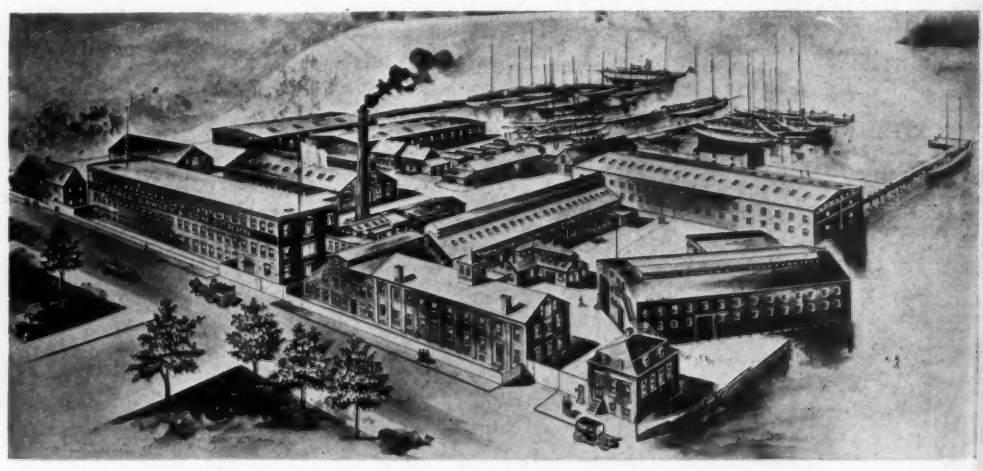
About 1902 the organization was further strengthened by the entrance of Fred D. Lawley, son of the president, into the business. After a thorough apprenticeship in designing, during which he attained quite a reputation in this line, he passed to the practical side of the business and at present is superintendent of the works.

In 1903 an opportunity came for still further enlarging the plant. An adjoining property belonging to the city of Boston came on the market and a large area was secured. This, with the original piece, now gave the corporation over 24 acres of shore land and flats, beside several available buildings which were utilized.

The boats turned out by this concern are too many to be mentioned by name. They number up in the hundreds and their names can be found in any of the many yacht registers published by Lloyd's and the different yacht clubs. No one owning a Lawley-built boat fails to see that the Lawley trade-mark is applied to his craft. It not only gives him a certain prestige but materially aids him in selling his boat.

For some years the conviction had been growing on the firm that the march of civilization was making for conditions under which the standard of work could not be maintained. Large power plants and factories had been established on both sides of the yard, and through handling and consuming vast quantities of coal they had so shrouded their neighbor with dust and smoke that the fine work and finish, such as demanded by the management, became impossible; so that when, in 1908, a chance came to dispose of the real estate advantageously it was decided to sell and a search was made for a site in the outlying district of Boston which would offer the advantages of deep and accessible waters, cleanliness, freedom from noise and aggressions of more populous places.

Such a place seems to be that bought a



THE PRESENT LAWLEY PLANT AT NEPONSET, MASS.

Neponset, Mass., in 1910. After fitting up the buildings on the grounds and moving and putting in place those which could be taken from the City Point plant, the corporation finds itself in possession of what is undoubtedly one of the best arranged and equipped plant for high-class yacht building in the United States to-day.

Such has been the growth of the business started in such a small way by George Lawley, Sr., at Scituate, in 1866; and while the Lawleys realize that their success is largely due to the high standard of workmanship they have maintained, they do not fail to appreciate the unfailing loyalty of their customers, many of whom they count as their personal friends, purely business relations often having ripened into friendship.

Driftwood from Alongshore

Chicago Yacht Club Plans

Our fellow member and ex-commodore, William Hale Thompson, owner and captain of the schooner yacht Valmore, which three times won the Mackinac long-distance race, was elected Mayor of Chicago by an overwhelming majority early in April. "Some class" to the Chicago Yacht Club! We suppose that the new Mayor will be appointing house committees, entertainment committees and regatta committees to handle the city's business from force of habit.

Commodore Heyworth has been working hard to bring about a challenge for the Manhasset Bay Cup, and at this writing it looks as if he would be successful. A New York syndicate has the matter in hand, and hopes either to build a boat or to send Josephine out to try conclusions with the Valiant, while from Massachusetts Bay there is also the prospect of a challenge. We can't announce anything more definite yet, and the hard-working commodore can only report progress at the time of going to press.

The full schedule of racing events has not yet been decided upon, but will be very shortly. The regatta committee is getting on the job, and after May 1 ought to be a very busy little committee.

United States Power Squadron Notes

Flag Lieutenant N. L. Stebbins has just returned from Cleveland, where a new Power Squadron has been organized. The Squadron starts with twenty charter members.

The Huntington Bay Power Squadron has just been admitted to the United States Power Squadrons, Inc.

The report of the committee on rules is in the hands of Chief Commander Upton.

The secretary will publish a pamphlet containing the new by-laws, names of members and the names of their crafts in the near future.

The official organ of the United States Power Squadrons, Inc., is taking shape and will soon be in the hands of the members.

The Power Squadron of New Haven held its second annual meeting April 7, electing its officers for the year.

Commander Cornwell has designated Saturday afternoons as drill periods, the majority of the members agreeing that it is the most convenient time. The next meeting of this Squadron will be held May 5 at the Manufacturers' Exhibit, 671 Chapel Street, at 8 o'clock.

Genesee Dinghy Club Offer

The regatta committee of the Genesee Dinghy Club has arranged for the season's races and cruises, which, beginning with Decoration Day, promise to keep the boats on the go nearly every Saturday during the summer. This year, which is the sixth in the history of the organization, finds the fleet augmented by six new contenders for racing honors, so that by the time the first gun is fired a large flock of the little single-stickers will be fluttering about the starting line.

Some handsome cups have been presented to the club. Chief of the trophies is the silver cup presented by Commodore Fred A. Mabbett, of the Rochester Yacht Club, which will be awarded to the craft making the greatest number of points during the season. Ten races have been scheduled for this prize, which will be sailed on Saturday afternoons.

The club has recently received letters from many parts of the world asking about Genesee dinghies, and fleets are being built in a number of different ports for the coming season. The last one came from Chicago, where they seem very much interested in the plans submitted. The Genesee Dinghy Club is always glad to furnish blue prints and all information of the various models they have produced, free of charge, and all their members stand ready to help.

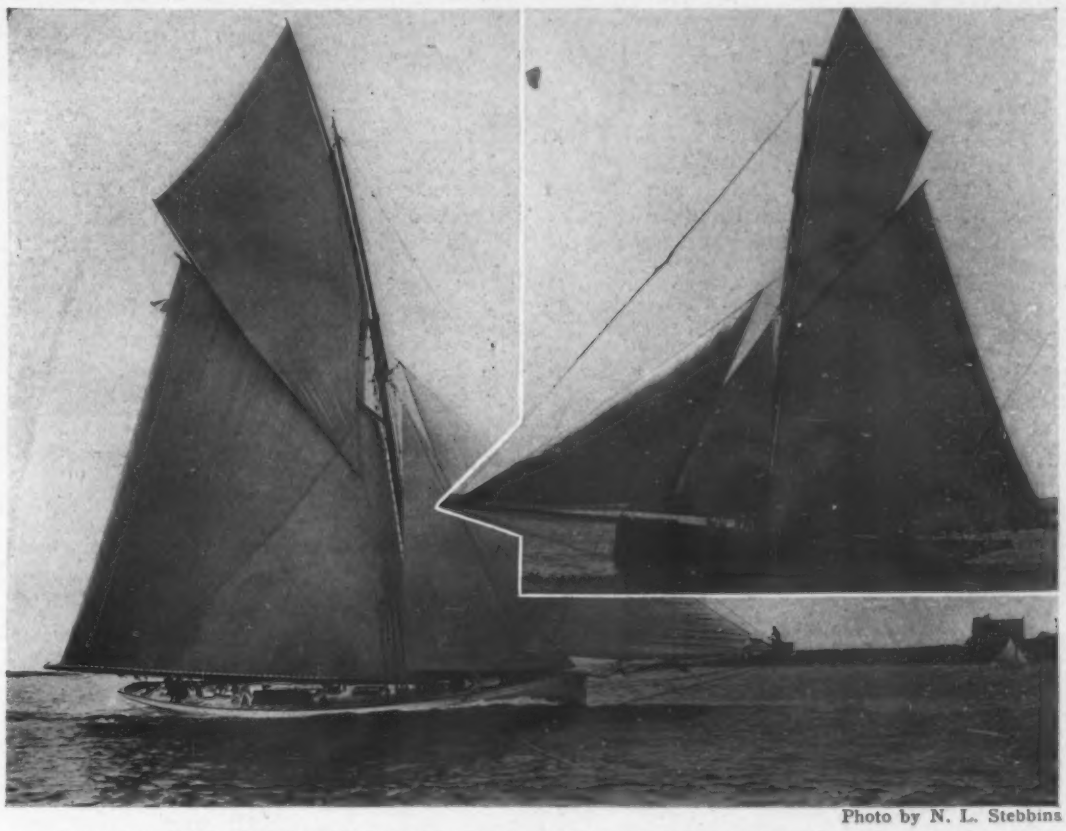


Photo by N. L. Stebbins

THE SLOOP PURITAN, WHICH FIRST BROUGHT INTERNATIONAL FAME TO LAWLEY, AND THE CUTTER GENESTA, WHICH SHE DEFEATED IN 1885

Yachts Change Hands

An unusual demand for yachts of all types is reported by Cox & Stevens; some of their recent transactions include the following:

The 140-foot steam yacht Osceola, sold for W. A. Rowan, of New York, to Arthur Meeker, of Chicago, for service in Eastern waters; the 70-foot gasolene yacht Tosca, sold for Albert C. Middleton, of Camden, N. J., to J. E. Baldwin, for use on Long Island Sound; schooner yacht Whileaway, sold for C. K. G. Billings, N. Y. Y. C., to William Foggitt, of New York, for cruising on Narragansett Bay and Long Island Sound. She is one of the well-known Stamford one-design schooner class; the 85-foot gasolene cruiser Edithia, chartered for H. Wilmer Hanan, N. Y. Y. C., to Senator C. H. Watson, for use at Miami, Fla.; auxiliary yawl Sieglinde, sold for George B. Hopkins, N. Y. Y. C., to Albert M. Billings, N. Y. Y. C.; the 120-foot steam yacht Starling, sold for Electric Boat Company, of Groton, Conn., to Eastern parties for commercial purposes.

Stanley M. Seaman reports the recent sale of the 45-foot express cruiser Josephine for Mr. C. J. Stein to David H. Knott, of Bayside, L. I. Mr. Stein purchased the 50-foot Luders cruiser at the recent New York Motor Boat Show.

Through the John G. Alden Yacht Agency, Richard D. Sears, of Boston, has sold the 25-foot knockabout Bobs to C. D. Maxwell, of Montclair, for use on Buzzard's Bay; John C. Hurd, of Cambridge, has sold the 23-foot sloop Marjorie III to R. L. Mosher, of New York; George S. Coke, of New York, has purchased the 21-foot cruising knockabout Armorel from J. R. Daniel, of New London, and C. H. Saywood, of Boston, has sold the 38-foot cabin launch Scamp to G. Paul Brackett, of Marblehead.

The Hollis Burgess Yacht Agency has sold the 87-foot steam yacht Lotis, owned by Frank P. Gurney, of East Boston, Mass., to the State of Massachusetts, for use as a State police boat along the Atlantic coast. Lotis has a 250-horsepower engine and has a sustained speed of between 12 and 14 knots. The same agency has sold the 86-foot steam yacht Hope, owned by Herbert M. Sears, of Boston, commodore of the Eastern Yacht Club, to Bishop Robert Codman, of Maine.

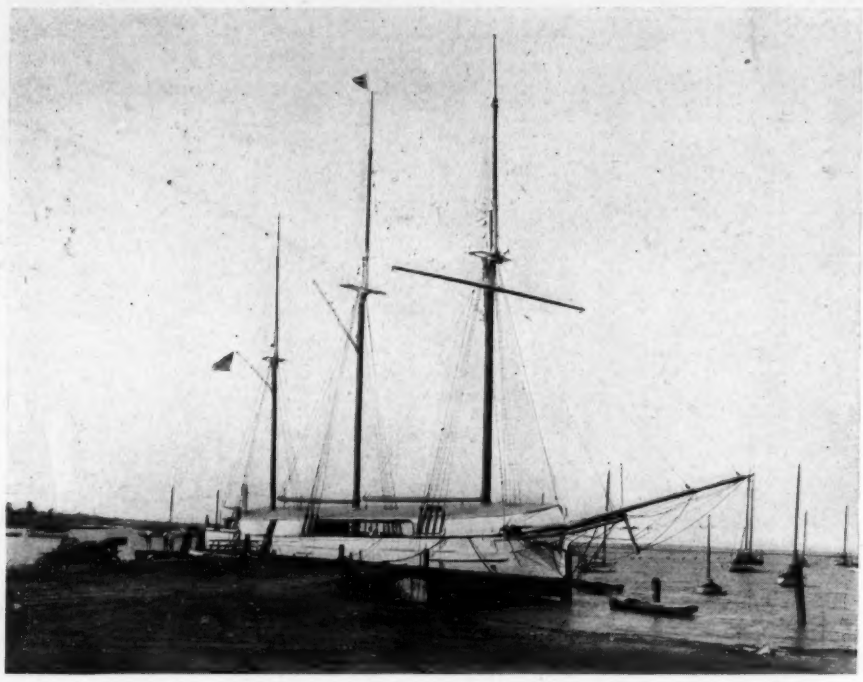
The following sales and charters have been reported by the office of Tams, Lemoine & Crane.

The steam yacht Alvina, chartered for Mr. Thomas P. Cole to a well-known New Yorker for a cruise in Southern waters; the 100-foot twin-screw Itasca II, chartered for Senator E. B. Hawkins, of Duluth, to Mr. Otto H. Kahn, of New York City; the 100-foot motor yacht Alfredine IV has been chartered for Mr. Ralph E. Slaven to Mr. John R. Drexel; the 120-foot twin-screw motor houseboat Ruffhouse, chartered for Mr. E. C. Allen to Mr. Reginald Brooks; the 200-foot seagoing steam yacht Virginia, chartered for the estate of Isaac Stern to Mr. J. J. Van Alen; the motor yacht Edithia, chartered by Mr. J. H. Hanan to Mr. Edward Browning; the 75-foot twin-screw Cocopomelo, chartered for Mr. Benedict Crowell, of Cleveland, to Mr. Augustus Hemenway, of Boston; the 70-foot motor yacht Stroller, chartered for Mr. Andrew Crawford to Mr. George J. Gould; the 25-foot cruising sloop Fritter, sold for Mr. Oliver Roosevelt to Mr. C. D. Vail.

A Unique Floating Yacht Club House

How the Lincoln Park Yacht Club, of Chicago, solved its problem of a home and provided one of the most attractive stations in the United States

JUST by the north end of Lincoln Park, at the foot of Belmont avenue, is moored a three-masted schooner—a relic of the days when Lake Michigan's grain and lumber fleet made picturesque the water front of Chicago. There remain but few of the type—steel and iron have consigned them to limbo—but the ghost of the past is here in the skeleton-rigged Carrier, with booms, gaffs and yard intact, and the home of the recently organized Lincoln Park Yacht Club is aboard her.



WITH HEAVY LINES FORE AND AFT HOLDING HER TO A DOCK ON THE WATERFRONT OF ONE OF CHICAGO'S BEAUTIFUL PARKS, THE SCHOONER CARRIER MAKES A MOST ATTRACTIVE HOME FOR THE NEW LINCOLN PARK Y. C.

In the spring of 1914 the Lincoln Park Yacht Club came into active existence. The small but earnest group of real sailors who foregathered on the deck of the Fiorgyn and founded this club have done so well that the membership roll, which has already reached 200, boasts the names of many of the "livest" Corinthians at this end of the lake.

From the start the Commissioners of Lincoln Park were well disposed towards the new club. The question of club quarters was thus happily answered. It was found that the schooner Carrier, 130 feet waterline, 26 feet beam and 7 feet draught, could be secured—and secured she was. Those who watched her fitting out marveled that the thing had not been done before, as surely here was a club house that fulfilled every yachtsman's ideas of the fitness of things.

Heavy lines ashore fore and aft, riding snug and secure, a broad awning stretched the length of her deck, here is a wonder place for a yacht club. Ships' carpenters and painters have had a merry time of it. On deck an adze removed the stains of fifty years' weathering at sea; spars and rigging were scraped, painted, overhauled, all made bright and new. This being a sailors' club, sail and clothes lockers were installed below with a shower bath and a large electric range in the galley. Wire and pipe connection with the city provides telephone, electric light and water. A large refrigerator and hot water plant are also provided.

With plenty of lockers and a float alongside for dinghies (there are lots of these around) the boys are content. Comfortable deck chairs, tables, a good cook and enough active Jap boys, make the awning-covered deck a popular place on a hot day, while below, on a cold one, every comfort of a shore house is found, with the massive deck beams overhead to keep one from forgetting that he is afloat.

Nor are the young fellows neglected. Incipient racing skippers are eagerly sought, for the officers of the club realize that the future of the fleet means to catch 'em young, and get their interest started on the proper course before the shore attractions make an impression.

Lincoln Park Yacht Club is ready to start the new season with the eagerness of youth and enthusiasm.

Though this is only the second year, the prospects are for good things to happen this year. The remarkable attendance in last year's regattas, when 65 sailing yachts crossed the finish line in the Fourth of July race, was pretty good for a starter and augurs well for bigger races to come. The land lubbers have never before seen so much sailing on Lake Michigan.

For a harbor and club anchorage the new organization is particularly well fixed, the yacht basin being securely landlocked. The background of trees, tennis courts and golf links—all in the city limits—a clean, beautiful harbor, easily accessible, give the club

THE CLUB KITCHEN IS A REAL GALLEY

BELOW ARE ALL THE COMFORTS OF A CLUB HOUSE, WITH THE DECK BEAMS OVERHEAD TO KEEP ONE FROM FORGETTING HE IS AFLOAT

an ideal location and one that will be appreciated by the yachtsmen of most of the large cities, who usually have to face a long, tiresome train ride to get within sight of "blue water."

With the racing and boating enthusiasm of the members of this new yachting organization, and its natural advantages, it would seem as if the older yacht clubs in Chicago would have to look to their laurels if they do not wish this enterprising youngster to speedily pre-empt the supremacy in racing on the Great Lakes.

Useful Hints on Troublesome Bits of Boat Building

CUTTING the rabbet in the stem and keel of a boat is often the cause of considerable trouble on the part of the amateur builder. If the methods shown in the drawings herewith are carefully followed, considerable time and good lumber may be saved.

Fig. 1 shows a simple method of making a stem that is particularly adapted for small boats where the stem is to be either straight or raking. In this case the stem is made in two pieces, thereby avoiding the rabbeting job, as the stem proper is simply tapered and a V-section cut to cover the ends of the planking. The latter is fastened on by means of screws or bolts, acting as a cutwater, and is called the false stem.

This method has the advantage of being easy to repair. Should the false stem become damaged, a new piece may be easily fitted without removing the planking.

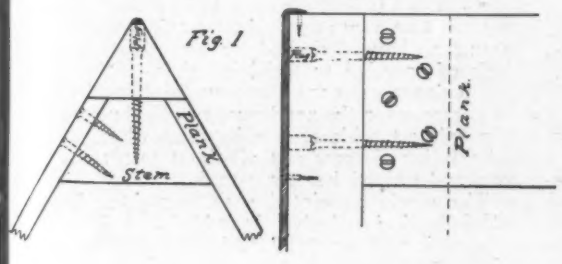
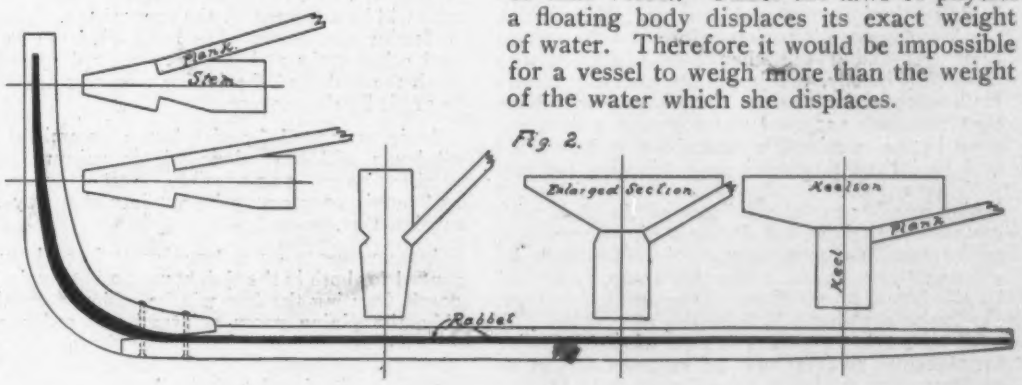


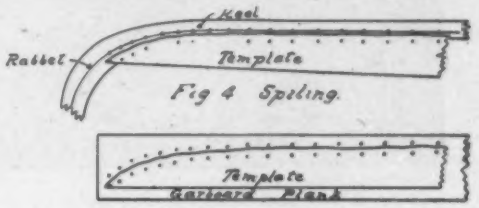
Fig. 2 shows the outline of a round stem and keel usual in the V-bottom type. Stem and keel are usually set up and joined together, after which the rabbet line is laid off. When working from a set of plans you will find in the table of offsets (and sometimes on the drawings) the figures giving the location of the rabbet line at 6-inch intervals. From the full-sized lines laid down on the floor the correct location of the rabbet line is obtained and transferred to stem and keel. After these lines are marked on the wood the moulds should be set up temporarily to get the proper bevel of the rabbet. Then take a long batten about 2 inches wide and the same thickness as the planking and spring around the moulds. Cut beveled notches in the stem along the rabbet line at 6-inch intervals, so that the batten fits in flush, and then join these series of notches, using a chisel or rabbet plane.

Great care should be taken not to cut too deep, or it will be necessary to use shims to bring the planks out flush. This makes a poor job, for the shims soon rot out. It is better to have the planks set out a trifle, then planed down flush from the outside. The planks should fit snug against the inside edge of the bevel its entire width.

Cutting the Rabbet in Keel

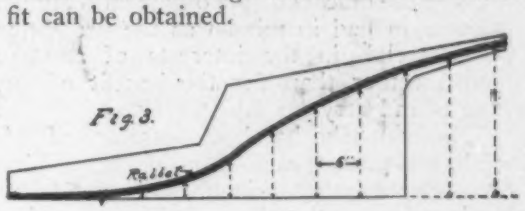
To obtain the bevel and depth of the rabbet in the keel prepare a piece of wood about a food long by 2 inches wide and same thickness as the garboard strake. Cut notches at each mould so that the end of this pattern fits in flush. The moulds may now be removed and the series of notches connected in the same manner as in cutting the stem rabbet. As in the stem, it is better not to cut quite the full depth, as it is an easy matter to take a shaving or two off after frames are in.





Fitting the Garboard

When frames and transom are in place the next job is fitting the garboard strakes. The best method of fitting these is by "spiling," which is done with a board, preferably of soft wood, about ¼ inch thick by about 6 inches wide and full length of the boat. This spiling staff or template is cut to fit roughly and clamped lightly in place, as shown in Fig. 4, using care not to spring it edgeways. Then set a pair of dividers so that the points span the widest opening and make punch marks every 6 inches at right angles to the rabbet line from its outside edge, drawing a pencil circle around these marks for identification. Lay this template on the plank selected for the garboard and with the dividers set as before, prick off a series of marks corresponding to those on the pattern, and by cutting on a line drawn through these marks an exact fit can be obtained.



In the V type there is a hard twist at the bow and the stern like that shown in Fig. 3. In these cases it is necessary to steam the ends of the plank before it can be bent to place, as a crack or check will spoil it. If there is no steam box at hand and the planks are not too heavy they may be made quite pliable by wrapping with bagging and pouring on a number of pails of boiling water.

Displacement and Weight

Will you kindly publish the answer to the following question: Is it possible for a ship to weigh more than the weight of water the same ship displaces? F. P.

The displacement of a vessel is the weight of that vessel. Under the laws of physics a floating body displaces its exact weight of water. Therefore it would be impossible for a vessel to weigh more than the weight of the water which she displaces.

EDITORIAL

Misapprehension Regarding Motor Boat Club of America

There has been a lot of loose talk in motor-boating circles recently regarding the "baneful influence" of the trade on the sport of motor-boat racing. In his efforts to rehabilitate the Motor Boat Club of America, Commodore Blackton decided to institute certain changes which he felt would be beneficial. The impression somehow got out that no one connected with the trade would be admitted to membership in the club. This was never the intention of the officials of the club, who were fully alive to the value of the co-operation of anyone connected with the designing or building of motor boats and engines. We believe that every club in the country appreciates as members such practical men as these, and they are always looked upon as distinct assets to such an organization. What we believe the officers of the organization under discussion had in mind was the promotion of the club in the interests of amateur sport, rather than for the benefit of any line of industry.

The man who has been secretary of this club for many years—Mr. M. M. Whitaker—appreciating this fact, tendered his resignation at the time of the reorganization because he happened to be a naval architect by profession, with the special intention of relieving the officers of the club of any possible embarrassment along these lines. The resignation was not accepted at the time, but later, when the club decided on its new "999" one-design class, and Mr. Whitaker's designs were accepted, this gentleman again brought up the matter of his resignation, and it was reluctantly accepted. Not knowing all of these facts, and seeing too good an opportunity to "knock" at the apparent inconsistency in the club's policy, some people have gotten out their hammers and started in at the merry old game. The facts, however, are as stated, and we do not see that either the sacred ethics or sporting proprieties have been violated in any way.

Be Sure of Your Course

The loss of the schooner yacht Idler on Diamond Shoals, off Cape Hatteras, in January impresses afresh on the mind the necessity of having your compass properly adjusted or knowing its deviation before starting on a voyage. In the average pleasure boat there is almost nothing that is neglected as much as the compass, and, while very few of these boats ever go off shore, it is just as important to be able to rely on your compass when on soundings and along shore—in fact more necessay, as it is your chief reliance in dead reckoning. Not only should you not grudge the price of a reliable compass, but you should be willing to pay for having it properly adjusted, especially if it is installed in a power boat, and should practice swinging ship frequently to keep a check on it. On steam vessels no part of the navigating equipment receives the attention of the compass, and it is checked on every possible occasion by an azimuth. Yet the average amateur skipper blunders blindly along, in thick weather or in fair, trusting to the proverbial luck of "poor Jack."

Among the associates of Captain Harding, of the Idler, the loss of the vessel is laid to the fact that in the rush of getting away he did not have his compass adjusted, though the yacht and equipment were entirely new to him. He stated that he would adjust it after leaving port, but the records show that he had thick and boisterous weather from the time he took his departure from Scotland Lightship, and he had no chance to get a check on it.

One of the boating magazines has taken occasion to score the captain for not striking off shore at once, and intimated that he was afraid of the "imaginary dangers" of the Gulf Stream. This is hardly fair to Captain Harding. He was an offshore man, and was on a vessel bound on a long voyage through wide stretches of the Pacific Ocean, and it is not likely that he would "shy" at the Gulf Stream. It was evidently the captain's intention to cross the Stream and follow the usual track of vessels bound to Havana, for which port he cleared. The usual course from New York to Havana is not due south from New York, but S. x W. ¾ W. 326 miles to Diamond Shoals, thence across the Stream to a point approximately 30 degrees south, when the ship is hauled in to the Florida coast at Jupiter, and "skins" the beach from here down. This was the course that Captain Harding was endeavoring to follow, and would have followed if his compass had not been out. In a sailing vessel it is, of course, always well to get as much of an offing as possible, and unless he had a fair wind, Captain Harding might have figured on giving Diamond Shoals a little wider berth than he did.

It is always easy to condemn afterwards, but don't let us attribute the disaster to the captain's "fear of the Gulf Stream."

Getting Busy at the Harlem Yacht Club

At the April meeting the constitution and by-laws were amended by inserting a provision establishing a junior membership corps. This matter has been up for discussion before and the resolution authorizing the change was unanimously adopted. Briefly, the junior membership allows youngsters under the age of 23 years, who have been regularly proposed and seconded and passed upon by the membership committee, to be elected as a junior member, paying no initiation fee, and with annual dues fixed at $10. This entitles the junior member to the privileges of the club, with certain restrictions, but does not give him a vote or interest in club property. He is to abide by rules and regulations, which are to be prescribed by the board of directors. Practically, however, the junior member will have the run of the club until he reaches 23 years of age, when his junior membership expires and he becomes a regular member upon paying the regular annual dues. It was stated at the meeting that ten sons of members were waiting to be proposed at once, and it is expected that other enthusiastic young yachtsmen will be attracted by the proposition. The idea of junior membership has been tried out in several other clubs and has been proved successful. Both the club and the junior members are bound to profit by the movement.

It is requested by the house committee that all boats will have their winter sojourn in the yard cut as short as possible, so that the grounds and tennis courts may be put into shape by Decoration Day.

Improvements on a large scale have been arranged for both in the club house and grounds. The porch fronting the bay will be widened considerably, the dining room enlarged and redecorated. The reception room will also be thoroughly gone over and decorated. A substantial sum has been placed in the hands of the house committee to start the work. It was also decided to attend to various repairs about the grounds, putting down a roadway and walk to the gate, and arranging for a new roadway outside.

It is interesting to report that 32 members have been added to the list during the winter months.

Another racing season is almost at hand, but as yet there have been no challenges for the Brooklyn Ocean Challenge Cup won by John Crowley's Ediana two years ago. Interest in ocean racing seems to have dwindled, or else there is a sad lack of sporting material in other clubs. There are a dozen or more boats on the Sound eligible to compete for the handsome trophy, but not even the faintest whisper has been heard of a race. The Ediana is ready at all times to race for the cup and defend her right to it.

The newly appointed race committee has unofficially declared that in addition to the open Decoration Day regatta and the Stratford Shoal night race, four bay races, open only to members, will be held, two in July and two in August. It is

proposed to give substantial series prizes for the winners instead of giving prizes for each race. Points will be allotted by the system employed by the Larchmont Yacht Club. Two classes will be started instead of grouping the boats, large and small, in one class as heretofore. The new system will be more fair to all concerned. All that remains now is for skipperrs to get together and support the bay races.

"Ed" Tucker has appointed ex-Commodore Franklin Sullivan and "Phil" Fox as his associates on the regatta committee. We expect great things from this committee, exceeding all past records, and we believe "Ed" understands that our discerning eye is upon him.

At this writing, John Wimmer's houseboat has been afloat two weeks, opening up the season. However, practically the entire fleet is putting on finishing touches and should take the water by May 1.

Mr. J. O. Barnes, the new part-owner of Zingara, with "Fred" Newton, is doing a great deal toward putting her in commission. Last Sunday, at his busiest moment, we discovered him comfortably seated scratching a small piece of varnish off the tender.

Mr. George Jarchow has announced that he will donate the usual "Jarchow Cup" this year.

John Lalor expects to sail his new boat, the former Dixie of the "Q" class, to the bay during the next fortnight.

No club is happy without an insurance man, so F. E. Fredericks (who says we never spelled his name correctly) has obligingly gone into that line of business. A forceful, genial soul is F. E. Frederichs (this time we have it right), and then some. This is not an advertisement.

An editor in "dear ol' Lunnon" reprints with relish the happenings in our modest midst, appending a hearty exclamation of "Some Club!"

"Dick" Coleman's ship's cat was seen about the club grounds last week. Talking about cats—how about chaining those vandal felines who stalk about the freshly painted decks each spring?

"Rudy" and "Joe" are acting for the movies.

The "Going-Into-Commission" beefsteak dinner will be held at the club house on May 15. From advance information we can safely inform our kind readers that it will be well worth their while to plead a meeting at the Lodge for that evening. This sounds ambiguous, but what we mean is that the affair will enjoyably occupy your time, and then some. This is no "Little Dinner," but a real feast.

News of the New Rochelle Yacht Club

The yachting season will "be on" in Long Island Sound with the official opening of the New Rochelle club house on May 22, when a brand new burgee will be unfurled from the flag staff and the club formally goes into commission. The grounds are being fixed up now, and the boats at Larsen's, in back of the locker house, are being put in commission as fast as Larsen and his bunch of strong-armed men can do the work. Everything points to a good season upon the water, and there is every prospect of as many boats being anchored inside of Gut Island as in any previous year. Moorings are already at a premium. If yours isn't down already, you'd better hurry up and get it planted.

There will be a number of improvements this summer, chief among which will be a new working launch for use between Harrison Island and the Shore Station, and out to the various houseboats anchored up on the flats. This boat will be about 21 feet long, drawing only 18 inches of water, and she will facilitate the launch service to a marked extent, as the three other launches will also be in service. One of the most energetic captains of our power boat fleet, Mr. H. M. Betts, has just had Bullock's job of superintendent of the launch service wished on him for the year. It's hard lines on Mr. Betts, but the club couldn't have a more suitable man on the house committee to look after this important work. We don't expect an engine failure all summer—except possibly on the day of the annual regatta.

The full schedule of racing events and entertainments for the club has not been decided on as yet, but the dates of the three regattas announced by the Long Island Sound Yacht Racing Association are as follows: June 12, New Rochelle Yacht Club Spring Regatta; July 10, New Rochelle Yacht Club Stratford Shoal Race; August 28, New Rochelle Yacht Club Annual Regatta. This will enable the regatta committee to arrange its schedule for the year. At a meeting of the regatta committee, composed of George Molloy, H. W. Patterson and D. Ed. Dealy, Molloy was elected chairman, and Patterson secretary.

Speaking of our esteemed chairman of the regatta committee, it has just come to light that when George was on that Maine cruise last summer he stopped at the hustling Maine town of Bath. While there he confided to a friendly stranger that he usually kept his money in his trousers pocket. The following morning the friendly stranger and George's trousers were missing. George is now convinced that the right place to keep your money is in your shoe.

Two new members have been added to the board of trustees. Mr. H. M. Betts was elected by the board to take the place of H. S. Bullock, resigned, and S. Hubley takes the place of Mr. W. H. J. Ehlers, resigned.

The trapshooting season was brought to a close on Sunday, April 11, in a shoot that brought out a good number of men in spite of the rainy and unsettled weather. The principal prizes were won by Hatch, who won the accumulation cup, with Girat second.

Don't forget the opening date and the fact that there is a dinner at the club house on that night. Everybody knows what a good time we had at the opening dinner last year. Let's all get together this year on May 22 and whoop it up for 1915.

C. A. Marsland is captain of the new dinghy float, which will be moored off the island. Some ship, Charlie!

Spring Activity at the Portland Yacht Club

The Little Dinners are over for this season. The last event was well attended, more than the usual hundred being present. Mr. John Jay McDevitt, of the millionaire-for-a-day fame, was a guest of honor. His talk to the members was a "scream." His keen wit kept the gathering in a roar of laughter, and when he finished the applause was nothing short of an ovation. The demonstration continued until Mr. McDevitt again arose, and his second speech was quite equal to the first.

The treasurer of the entertainment committee, Mr. E. J. Huelin, made a detailed report for the committee, showing that the seven Little Dinners, the Army and Navy Night and the club's reception to its officers had "broke even," which, by the way, is a remarkable showing for the committee, and they in turn were given a vote of thanks.

Nine members were admitted to membership at the April meeting. Mr. W. A. T. Hunt asked permission to resign as treasurer, and Mr. E. J. Huelin was elected to fill the vacancy.

A limit of 450 active members was placed upon the membership. At the rate the club is growing it is but a question of a few months before a waiting list will be in order.

The forty-sixth annual banquet, which was held at the club house, was a most decided success. The attendance was all the club house could comfortably accommodate. Rear Admiral Peary, Gov. Oakley C. Curtis, Mayor William M. Ingraham, Ex-Judge Joseph W. Symonds, Chief Commander of the United States Power Squadrons Roger Upton (all members of the club), Flag Lieutenant of the United States Power Squadrons N. L. Stebbins, Boston, and Mr. H. L. Stone, editor of YACHTING, were seated beside the commodore.

The dinner was excellent, being served by Mr. Clifton Pooler (the club's Chinese cook being allowed to sit at a regular table on this occasion). After the dinner a few short speeches were made and the remainder of the evening was given over to renewals of friendships and a good time. The party was a gratifying success to the members as well as the entertainment committee, in whose hands the arrangements had been placed.

The first pleasure craft to visit Portland is the Lyndonia, owned by Mr. Cyrus H. K. Curtis. She was on her way from Philadelphia to Camden, the summer home of Mr. Curtis. The Lyndonia has for several years been the first of the larger yachts to arrive in Portland.

The Eastern Yacht Club will hold its annual cruise the first week in July. The cruise will be along the coast of Maine, which is acknowledged the finest cruising ground on the Atlantic coast. The fleet will start from Marblehead July 2. The first day's run will be to Portland (72 miles); July 3, Portland to Boothbay Harbor (28 miles); July 4, Boothbay Harbor to Tennant's Harbor (26 miles); July 5, Tennant's Harbor to Islesboro (28 miles); July 6, Islesboro to North Haven (24 miles); July 7, North Haven to Swan's Island (25 miles); July 8, Swan's Island to Northeast Harbor (21 miles); July 9, Northeast Harbor to Bar Harbor (23 miles). Undoubtedly the Portland Yacht Club house will see many of the captains and their guests on the evening of the 2d. It is customary with the members to hold a smoker upon such occasions.

Mr. E. P. Greenough can claim the distinction of having the first motor craft in commission (the Kit), while Mr. Herman Burgi the first sailing yacht (the Rascal).

There are some dozen motor yachts at their moorings in front of the club house, while as many more will go overboard the first week in May. If early indications count for anything, 1915 bids fair to be a motor boat year.

Power Squadron's Doings

Plans for the Portland Yacht Club Power Squadron for the coming yachting season include a series of drills, under the direction of Rear-Commodore Holman F. Day, illuminated drills off Peaks Island, several shore cruises in the waters of Casco Bay, and a regatta with races for the various classes of power boats in the fleet.

The Power Squadron of the Portland Yacht Club is the second organization to become a part of the United States Power Squadron, having joined the national organization shortly after the Boston Yacht Club had become a part of the big squadron, which now includes all the leading yachting organizations along the Atlantic coast.

Portland yachtsmen have been decidedly active in the United States Power Squadron, as Vice-Commodore Holman F. Day, of the Portland Yacht Club, was the first lieutenant-commander of the national organization, and recently Secretary Frank W. Wardwell, of the Portland Yacht Club, was chosen as secretary of the United States Power Squadron.

There will be a good-natured fight between the Portland Yacht Club Power Squadron and the New Bedford Power Squadron for the gold medal this coming summer. New Bedford says we've got to go some—well, we can; just watch us.

Of Interest to the Skipper

Remarkable New Speedway Motor

Among the entirely new engines of the season of 1915 is one of particular merit for many reasons, foremost among which is that it is noiseless, vibrationless and *clean*. This engine, while of the heavy-duty or cruising type, is not of the heavy engine type, so that it does not overburden a reasonably small vessel requiring the propulsive power of its rated capacity of 120 brake-horsepower. All working parts of this advanced type of "Speedway" engine are enclosed, so that not a drop of oil can work its way into the bilges.

Although of 120 brake-horsepower, this heavy-duty motor weighs but 5,000 pounds, *including its air-starting system*, which is a built-in part of the machine. The cylinders are of the twin type, 6¾ inches bore by 8½ inches stroke, and the revolutions number 500 to 600 per minute for a rating of 100 to 115 horsepower. At a recent test before a number of engineers of prominence, the engine ran so smoothly that, though at full power, it was difficult to tell whether or not it was running. Indeed, 5-cent pieces were balanced on their edges on top of the cylinders, thus showing the entire absence of vibration.

This engine, the latest product of the Gas Engine & Power Company and C. L. Seabury & Co., Morris Heights, New York, is indeed a marked advance in gasolene engine design and construction as well as completeness, and should command the most careful attention of owners and engineers.

Chelsea Ship Clocks

The Chelsea Clock Company, of Boston, Mass., has a particularly attractive eight days' ship's clock on the market which can be connected up so as to automatically strike the ship's bell no matter where the bell is placed on deck. The clocks are very handsomely cased in various kinds of metal or wood, and the Chelsea Clock Company have been making clocks so long that nothing further need be said about the reliability of the mechanism. If it is desired to strike the bell at any time except automatically on the half hour it can be done by means of a push button switch.

A Sailmaker for the Lower Bay

Bottger Bros., sailmakers, formerly of City Island, where they have been making sails and canvas work for yachts for some years, and who were successors to G. W. Robinson & Co., have removed to Marine Basin, Ulmer Park, South Brooklyn, where they now have a large sail loft. There is no sailmaker in that part of Brooklyn and there seems an unusually good opportunity. They have a large factory and are in a position to take care of all kinds of yacht and canvas work.

Marblehead Anti-Fouling Green for Your Boat's Bottom

Every man that owns a boat is interested in getting a bottom paint that will prevent fouling by marine growth. Marblehead Anti-Fouling Green, which is put on the market by the Stearns-McKay Manufacturing Company, of Marblehead, is one of the best known compositions for this purpose. It is said that its anti-fouling qualities will keep the bottom of yachts clean for a whole season, and this is, of course, of great value to yachtsmen, saving them the cost of hauling out in midsummer and the loss of valuable time.

An exceptional and interesting feature of this bottom paint is its hard, slippery finish, totally different from other anti-fouling bottom paints. A number of well-known yachts have been painted with Marblehead Green many times, ranging over a period of from eight to twelve years without being scraped, and the bottom of these boats today is perfectly clean and smooth. Such a feature as this means an enormous saving in burning off old paint and repainting. In Southern waters it is claimed for this paint that it is the only possible substitute for copper sheathing as a protection against toredos. In an official test, recently made in the Gulf of Mexico, in comparison with a large number of other bottom paints, it gave a striking proof of its superiority.

The reputation of the manufacturers stands very high among yachtsmen, and they guarantee satisfaction in the use of their bottom compositions. Marblehead Green is not a copper paint, and for that reason it has been used with great success on steel vessels. When used on metal the makers advise a priming coat of red lead, but this should be used on metal only and never on wood.

The Gray Trio

1915 Gray Marine Catalogue and Booklets

The Gray Motor Company, of Detroit, Mich., have just issued a new marine catalogue showing a complete line of two and four-cycle motors. In it will be found an engine adapted for every kind of boat imaginable, from a small power-driven canoe or a little fishing launch to racers, runabouts and cruisers. The catalogue is very carefully arranged, and gives all the information about marine motors that one wants to know.

All motors shown in this catalogue are guaranteed by the Gray Motor Company to be exactly as represented, and anyone expecting to be in the market for a marine engine would do well to write for this new book, as it gives some very valuable suggestions on marine engines.

The Gray Motor Company also publish two other book—The Boat Builder's Catalogue and a Book of Boats. The Boat Builder's Catalogue shows the specialties of the leading boat builders throughout the United States and Canada. It tells you just where you can buy the kind of a boat you want, at the price you want to pay.

The Book of Boats is a splendid guide in selecting either hull or engine.

The Gray Motor Company will furnish these books free upon request to anyone wishing them by writing 5,308, Gray Motor Building, Detroit.

Holmes 8-Cylinder Engine

The Holmes Motor Company, of West Mystic, Conn., have recently added an 8-cylinder 100-horsepower motor to their line. Some of the features of this new Model "I" are:

Not a moving part in sight, yet just as accessible as other get-at-able motors of the Holmes type. This "Get-at-Ability" is not of the handhole type where you can merely reach in and touch the part, but of the steam engine type, where every part can be taken out quickly.

The oiling system is entirely inside, with only a gauge outside to indicate the pressure. There is an independent feed to every cylinder and all the main bearings are flushed. The pump is just as accessible as though outside, for it can be reached instantly.

The driving mechanism for everything but the water pump is inside the base, while the water pump drive is enclosed separately on the outside

The speed is from 500 to 600 revolutions per minute. The main bearings and crank pins are one-half the diameter of the cylinder. The pistons are longer than the stroke. The reverse gear gives practically the same revolutions per minute on the back-up as on the go-ahead motion, and thus when the gear is in the "go-ahead" all the inside gearing is idle and there are no strains upon the gears.

The motor is, of course, of the long-stroke type, as are all the Holmes engines. While this 8-cylinder model is new the engine itself is of the old and thoroughly tried out Holmes type, combining the durability of the heaviest so-called "heavy-duty" type with the refinements of the speed motor.

Evinrude Posters

The Evinrude Motor Company, recognizing the craze in poster stamps, has just issued a very interesting set of twelve stamps showing the Evinrude Motor in use in different parts of the world. These are printed in full colors and are very artistic and interesting, and show the various uses to which these engines may be put. A set of twelve will be sent for 4 cents by addressing the Evinrude Motor Company, 21 Evinrude Block, Milwaukee, Wis.

Carpenter's Catalogue

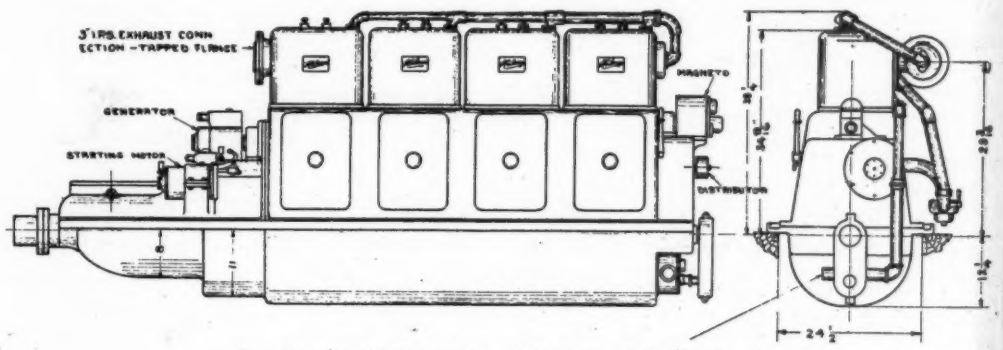
George B. Carpenter & Co., 430 to 440 Wells street, Chicago, Ill., who have long supplied yachtsmen of the Great Lakes and inland waterways with their marine hardware and fittings, have their new marine catalogue No. 102 and 1915 price list ready for distribution. This is a book of 500 pages and contains a complete description of every article of boat equipment that will be needed on every craft, from the smallest motor boat to the largest steam yacht.

Every boat owner should have one of these catalogues, for if he ever gets caught during the season in a point where he wants to order in a hurry he can save much time and annoyance by referring to the catalogue, finding just what he wants, and ordering the proper size by number.

Send 20 cents in stamps to Geo. B. Carpenter & Co. to cover postage, and you will have a book that not only will be useful but very interesting to the boat owner.

Officers of National Association of Engine & Boat Manufacturers

At a meeting of the executive committee of the National Association of Engine & Boat Manufacturers, held April 2, the following officers were elected for the ensuing year: President, John J. Amory; first vice-president, Henry R. Sutphen; second vice-president, P. C. Jones; third vice-president, C. A. Criqui; treasurer, James Craig.



New Holmes 8-Cylinder Motor, 100 H. P., 500-600 R. P. M.

If you act at once, you can secure a "Watertown" Motor at a big money-saving

On May 1st, we will occupy our new factory at Paterson, N. J. To save moving expenses, we offer, at extremely attractive prices, the following motors, guaranteed to be in perfect condition.

There never has been and probably never will be another opportunity to secure a Motor of the recognized "Watertown" quality at such low prices. The motors in this special sale include the following:

One New 2-Cylinder 5x5 14 H. P. Motor, Heavy Duty Type, with Complete Equipment (see below), including Clutch. Standard Price, $335. Now, $280.

One New 3-Cylinder 5x5 21 H. P. Heavy Duty Type, with Complete Equipment (see below), including Clutch. Standard Price, $475.00. Now, $420.00.

One New 3-Cylinder 3½x3½ 9 H. P. Motor, with Complete Equipment (see below), including Clutch. Standard Price, $365.00. Now, $260.00.

One New 2-Cylinder 3½x3½ 6 H. P. Motor, with Complete Equipment (see below), without Clutch. Standard Price, $200.00. Now, $125.00.

One 1-Cylinder 3 H. P. 3½x3½ Motor (Rebuilt). Fully Guaranteed, with Complete Equipment (see below), without Clutch. Standard Price, $100.00. Now, $50.00.

One New 6-Cylinder 4½x4 60 H. P. Motor, with Complete Equipment (see below). Standard Price, $1,125.00. Now, $750.00.

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One new single cylinder 5x5, 7 H. P. Heavy Duty Type, Complete without Clutch, Standard Price, $185.00. Now, $125.00.

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In addition we have a limited number of our Special "En Bloc" Types.

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4-Cylinder 12-15 H. P. { **Complete with Clutch, $400.00.** / **Complete without Clutch, $375.00.**

The Equipment furnished with these Motors comprises:

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Improved Non-Vibrating Single Spark.
Dash Coil and Switch.
2 Wrenches.
Maxim Silencer or Underwater Exhaust.
Steel Shaft; Bronze for Salt Water (cut to length).
Bronze Stuffing Box and Lag Screws.
Bronze Propeller—2 or 3 Blade, size to suit conditions.
Seacock, Hose, Outboard Connection and Strainer.
Can of Oil and Grease.

Either single unit battery system or magneto system of ignition included in above prices. If latter is specified rear starter must be installed at a cost of $18.00 additional. If both systems are desired, some sort of dual system must be used for which prices will be quoted upon application.

In quality of materials used and resultant reliability and durability, in simplicity of design and operation, no other motor equals the "Watertown."

"Watertown" Motors have always commanded and always been found full value at their regular prices. The unusual circumstances responsible for these reductions bring an exceptional opportunity for the man who wants a Motor, to save money.

But you must act at once or the opportunity will be lost. Get in touch with us by letter, telephone or call TO-DAY.

Gillespie-Boynton Co., Inc. Telephone, Columbus 7545 **1790 Broadway, New York**

Agents Desired—There is good money in selling Watertown Motors—Get our attractive Agency Proposition.

The New Buffalo Cruiser and Runabout Model

The new cruiser and runabout model which the Buffalo Gasolene Motor Company has recently brought out, embodies many features never before applied to marine construction, though they have been successfully tried out in other fields.

The new engine is a four-cylinder machine, designed especially to meet the requirements of cabin boats and the larger class of runabouts. It is built in two sizes—40-60-horsepower, bore 5½ inches, stroke 7 inches, and 50-80-horsepower, bore 6¾ inches, stroke 9 inches, the former having a speed of 600-900 revolutions per minute and the latter 500-800 revolutions per minute. The smaller size weighs 1,100 pounds, complete with aluminum base and crank chamber, and 1,400 pounds with iron base and crank chamber. The larger engine weighs 1,600 pounds with aluminum and 2,100 pounds with iron. No gears are used in the construction of the new model where the work can be done by other means, with the result that it is as nearly noiseless and free from vibration as a gas engine can be. All working parts are enclosed with the exception of the flywheel. The cylinders are cast in pairs, thoroughly water jacketed and having large inspection panels. The crankshaft is unusually large, giving extra strength for an emergency and larger bearing surface. Lubrication is by means of a constant-level splash system with stream feed to the bearings and cylinders. The reverse gear is enclosed in an oil-tight case. Both sizes have two separate and distinct systems of ignition—the magneto and the battery and distributor system.

Send for this 1915 Tiebout's Catalogue.

A New Marine Hardware Catalogue

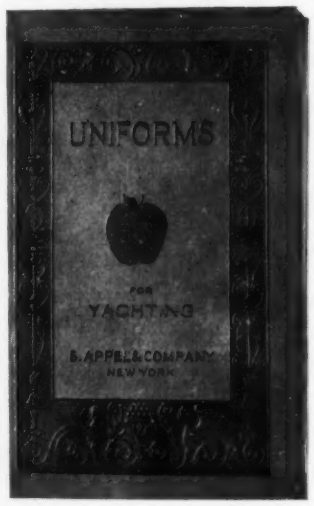
Have you ever been off on a cruise some fifty to a hundred miles from the nearest marine hardware dealer, and carried away something that you had to replace immediately? If you have, you have undoubtedly spent a good deal of money and wasted a good deal of nervous energy in sending telegrams back and forth in order to get what you wanted. A lot of this trouble can be avoided if you only have in your cabin a good marine hardware catalogue of a dealer that carries everything for boats. A wire one night will bring the article desired by the first mail.

To save any possible annoyance and delay why not write to W. & J. Tiebout, of 118 Chambers Street, New York, and get a copy of their new 1915 catalogue, just off the press. This is one of the oldest marine supply houses in New York, and no matter what size of boat a man may own, or what he may want for it, he will find a full list of equipment and of marine hardware in this new catalogue. The range of articles is unusually wide, and he can get either a fire extinguisher squirt gun, a compass and binnacle, or a cushion for his deck chair, and anything in between, from this concern. Better send for this book to-day.

Some Big Engine Bargains

Anyone looking to save money on a power plant this spring will find on another page of this issue the announcement of a clearance sale of Watertown motors preparatory to the removal of the firm to its new factory at Paterson, N. J. Some of these prices are very attractive for an engine that is as well known as the Watertown. The Gillespie-Boynton Company, the recent purchasers of the Watertown Motor Company, is already occupying its new offices at 1790 Broadway, New York city.

Yacht Clothing at Appel's



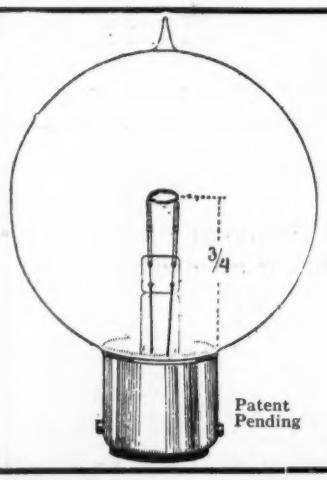
This is the season of the year when yacht clothing and uniforms are in demand, and anyone fitting out his crew or desiring new uniforms for himself would do well to consult the new catalogue just issued by S. Appel & Company, 18 Fulton street, New York city. This is one of the most attractive catalogues that has ever come to our attention. It is not only a fine example of typographical art, but contains a complete description of every article of clothing required for owner or crew, from slickers and rubber boots to a commodore's mess jacket. Each article is shown in a cut made from an actual photograph.

New Federal 2-Cylinder, 3-H. P. Outboard Motor, showing how engine and propeller can be swung up clear of the water without detaching.

The Federal Outboard Motor

Something new in outboard motors has recently been placed on the market and was exhibited for the first time at the New York and Chicago Motor Boat Shows. This is the Federal 2-cylinder motor, and it is claimed by the makers to be the lightest and the most powerful motor made. One of the special features of the Federal motor is that it is so hung on its bracket that the propeller and shaft can be swung up clear of the water without detaching the motor from the boat. This is especially handy when beaching the boat. The motor can also be adjusted to any angle of stern or any depth of boat; it can be reversed instantly without stopping the motor by turning the propeller through an arc of 180 degrees with the tiller ropes. It also has a special charge agitator, which completely does away with the difficulty of starting. With the special Federal carburetor and this agitator a perfect mixture is secured, and the engine will start without priming and with almost no cranking.

There is also an underwater exhaust provided as a special equipment when absolute silence is desired, though the standard muffler equipment is unusually effective. Ignition is by either battery and coil or high tension magneto. Three horsepower is developed, and the engine weighs from 60 to 75 pounds according to equipment. It is an unusually powerful and well-made machine, and further interesting details may be had by writing to the Federal Motor Manufacturing Company, 620-629 F Street, Washington, D. C.



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YACHT SAILS JOHN CURTIN, Inc. TEL. BROAD 4263 4 South St., N.Y

PAGES 265-268 ADVERTISEMENTS

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Marine Engine Dealers, Write for Agency Proposition

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Reversing Propeller

The exclusive patented feature of Joymotor that makes it the safest, most convenient, easiest to handle motor in the world. No more danger of accidents. No drifting or paddling to dock or shore. No more awkward, hurried cranking to reverse the motor. Just move the steering tiller to right or left and Joymotor almost instantly—

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"Joymotor is rightly named"—

"A joy to own"—"evidently built to enjoy"—that's what the owners tell us. Easily portable. Weighs 52 lbs. Runs your boat 7 to 9 miles per hour—canoes 10 to 12. Has real high tension magneto and carburetor, efficient oiling system and **does not have unsightly, tangled up pump hose.** Prices: Boat or Canoe Models Battery Ignition, $65; Magneto Ignition, $75. Write postal now for catalog and life-size picture of joymotor giving full details of the finest, most satisfying portable motor to be had. Write postal now to

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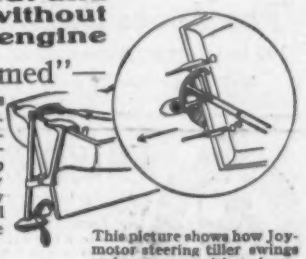
520 Tribune Bldg., CHICAGO



This picture shows how Joymotor steering tiller swings and reverses position of propeller. Compare this position with large picture.

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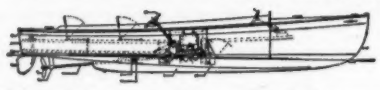

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KOBAN ROWBOAT MOTOR
Fine record—absolutely reliable—easy starter—easy to handle. Reverses by pressing button. Both cylinders fire simultaneously—that's what removes vibration—3 H.P.—speed propeller. Best constructed rowboat motor on the market.
Active Agents Wanted
Koban Mfg. Co. 236 So. Water St., Milwaukee, Wisconsin

Thro' Seas of Enchantment

(*Continued from page 246*)

even rebuild, if necessary; a good market, where fruits and vegetables are ridiculously cheap, and an ice and cold-storage plant that will sell him the best New Zealand beef and mutton at very reasonable prices. He can even have duck and drill uniforms made by a fairly good Chinese tailor at from a third to a half what they would cost in New York or San Francisco. He will begin to know what he wants by this time, too, and at Papeete will probably sell or trade off a lot of the superfluities that have been foisted on him before leaving America, and replace them with things better adapted to his needs. One of the agreeable surprises of South Sea cruising is to find that, contrary to the general impression, everything but luxuries may be bought at very reasonable prices at all of the principal trading centers.

Proceeding on from Tahiti, one has the choice of two courses—one almost due west to Fiji, touching at points in the Friendly and Tonga groups, and the other west-northwesterly to the Samoas, and then southwesterly to the Fijis. If one has plenty of time, the former course is to be recommended, as both the Tongas and Friendlies are well worth visiting. The Samoas, which on no account should be omitted from any South Sea itinerary, could then be called at after the Fiji visit. One could make at least a beam wind of the Southeast Trades on the Fiji-Samoa run, and from the latter islands he should be in a better position for the long reach up to Hawaii, which must be an objective point on the home voyage in any case. If the Samoas are visited before Fiji, one may head up for Hawaii directly from the latter group.

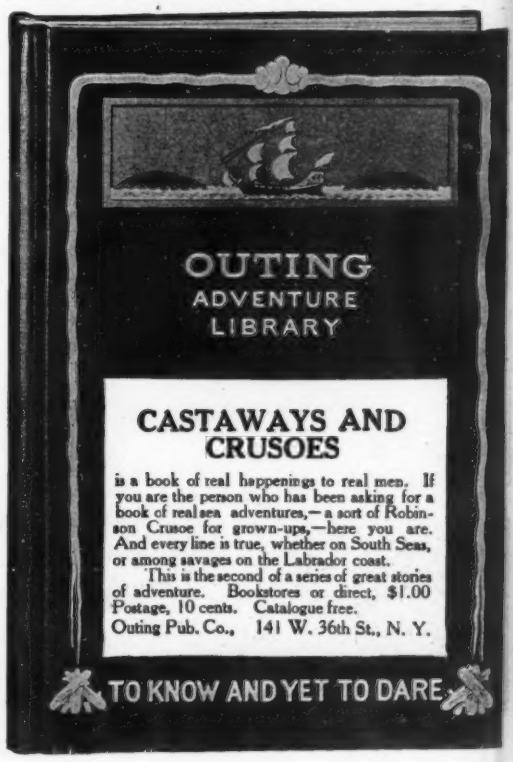
Our party sailed direct from Tahiti to Samoa, a run of 1,500 miles before the Southeast Trade. We sailed in sight of, but did not touch at Moorea, Raiatea, Bora-Bora and the several other islands of the Leeward Societies. In many respects both Bora-Bora and Moorea are even more beautiful scenically than Tahiti, while the natives, through lesser contact with whites, are not spoiled and sophisticated as those of the main island. As all of these points lie almost directly on either the Raratonga or Samoa course, calls would not take one out of his way.

From Tahiti to Samoa is a straight run before the Southeast Trade, and, under normal weather conditions, may be sailed wing-and-wing all the way. On our run in Lurline, however, though the wind held steady in its proper quarter, heavy storms far to the south were responsible for tremendous seas from that direction which, by rolling the yacht rail-under, now to weather and now to lee, often submerged half the length of the booms when the sheets were fully slacked off, making it very difficult to sail wing-and-wing. A square foresail could be used to good advantage on this, as well as on several other legs of the South Pacific cruise.

From Samoa to Fiji is about 1,000 miles on a course which brings the Southeast Trades just right for fast sailing. Lurline, through encountering a sort of maverick hurricane, took a week for a run which ordinarily might have been made in under five days. Suva, on the island of Vita Levu, has a safe though not especially beautiful harbor, and the town itself is rather more advanced than any in the South Pacific.

The Fijis will prove the natural turning-point of the cruise, for though the islands to the west—the New Hebrides and the Solomons—are very beautiful scenically, their climates are often deadly to the stranger, while it is far from safe to venture among the still cannibalistic natives. The 3,000-mile run from Fiji to Hawaii took Lurline 28 days under rather unfavorable conditions. Normally, a schooner or yawl of the same size should do considerably better than this. If one has come from Tahiti by the Friendlies and Tongas, as I have outlined, the long run to Hawaii would be broken by the Samoa visit. If the Trade were veering at all easterly, one would have to be very close-hauled all the way from Fiji to Samoa, though it is not likely any beating would be necessary. From Samoa a far more favorable wind could be made of the Northeast Trade after the line was crossed than on the direct run from Fiji to Hawaii.

Hawaii ends that portion of the cruise which is through little-known waters, and from here the Atlantic Coast yachtsman has the choice of making his way to Panama direct or by the California coast, the prevailing winds being favorable on either course.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Outing Pub. Co., 141 W. 36th St., N. Y.
TO KNOW AND YET TO DARE

Up the Coast on Heartsease

(*Continued from page 238*)

a small piece of a towel and drew from the carbureter a half-pint of water. Poor old One Lung! One could hardly blame him.

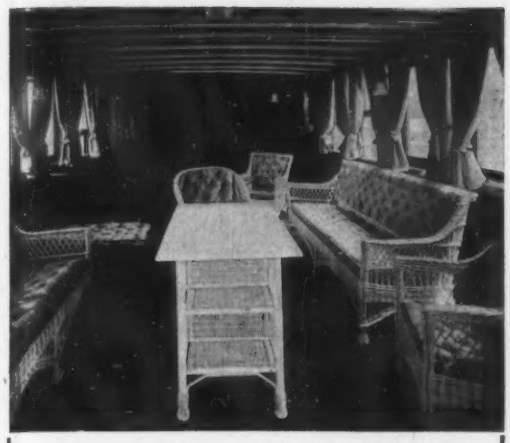
From Beaufort on the cruise became less exciting; more conventional. The long run through Pamlico Sound was uneventful, except that we fetched up at the end of one compass course some three miles too far to the eastward. The cabin boy was steering most of that leg and he blamed the compass, while the skipper naturally blamed the cabin boy. Close examination revealed the fact that the binnacle stand had become out of true in the shakeup outside. This corrected, comparative peace was restored. We spent a night at the convenient little harbor of Roanoke Marshes. Next day a squall hit us in the middle of Albemarle Sound, and passed as soon as the skipper got his mainsail in. This distressed the skipper exceedingly and he sulkily washed clothes all the way up the beautiful Pasquotank River.

From Norfolk we ran to Old Point Comfort and, finding the Chesapeake uninviting, reluctantly retired to "Mother Hawkins' Hole," back of the Hotel Chamberlin. Then came a miserable rainstorm, during which we lay at anchor in Hampton, that being a little snugger berth for an extended stay than "Mother Hawkins' Hole." We didn't want an extended stay, and a forced one didn't improve the inward feelings of skipper or cabin boy. Upon the latter the former gave vent to his troubles, finally declaring the cabin boy a sure enough hoodoo.

The weather cleared, and with it the atmosphere on Heartsease, and we made the long run up the bay to Annapolis under sail alone. It was a 28-hour run, but there was breeze enough to make good time

The Delaware never looked more beautiful than on that warm spring day when we ran up to Bordentown. After months of palms and orange trees, how good the northern vegetation looked! We were getting home! The run through the Delaware and Raritan Canal was uneventful, and we lay for the night off Perth Amboy, almost within sight of the metropolis once more. A long, cool day on our home waters of Long Island Sound followed, the sail and One Lung both doing their best, with the result that evening found Heartsease at her home mooring under the inviting Connecticut shore.

The cabin boy struggled into his shore clothes and caught a train for home. He was a changed cabin boy, for he had learned many things. But he has not seen the skipper who taught him those things since that evening in May.



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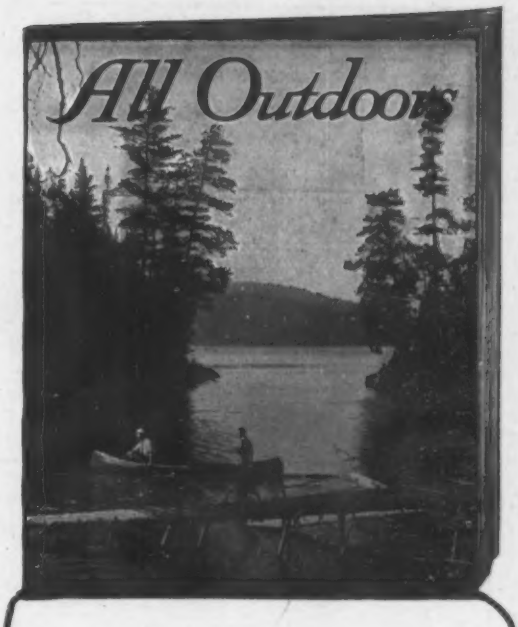

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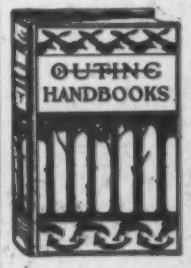

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